

Dr. Moumita Mukherjee, PhD (Technology)

Present Position: Professor & Dean (Research & Development)

Address: Department of Physics, School of Basic & Applied Sciences
Adamas University, Adamas Knowledge City,
Barasat - Barrackpore Road, 24 Parganas North, Jagannathpur,
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Education:

- PhD (Technology), Radio Physics & Electronics, Defence R&D Org., DRDO (University of Calcutta), 2009
- M.Tech. in Biomedical Engineering, WB University of Technology, 2007
- M.Sc. in Physics (Applied), University of Calcutta, 2002
- LLB (Hons.) ISBM University (BCI approved), 2024
- PGDIPRL, 2024-25, National Law School of India University, Bangalore.

Research Key Areas:

- Microwave / Millimeter wave Electronics & Systems
- Terahertz Electronics & systems
- Medical instrumentation
- Medical imaging, AI applications
- Solid state Electronics

Research Highlights:

- Terahertz detection of COVID 19 news covered by Labpulse Newsletter (<https://www.labpulse.com/index.aspx?sec=ser&sub=def&pag=dis&ItemID=801395>) and Photonics Newsletter (https://www.photonics.com/Articles/AI_and_Terahertz_Radiation_to_Help_Doctors_Fight/a65676)
- Terahertz Communication attenuation research received Grant from Ministry of Defence – Govt. of India
- Covid 19 detection using THz pulse spectroscopy – acknowledged by Terasense industry (USA) (<https://terasense.com/news/terahertz-rays-may-help-biomedical-engineers-hamstring-covid-19/>)
- IEEE Best Research Paper Award – 2009, 2011, 2019 and 2023
- IIM-DST Smart Fifty Start Up Project reward received for milk adulteration detection sensor development

Experience:

- Professor & Dean (Research & Development), Adamas University, India, 2020-till continuing
- Associate Professor & Associate Dean (School of Science), Adamas University, India, 2017-2020

- Assistant Professor (Sr. Grade) & Associate Dean (School of Science), Adamas University, India, 2015-2017
- Scientist (Reader Rank), DRDO Centre, Ministry of Defence, Govt. of India, 2009-2015
- Visiting Scientist, INEX, Newcastle University, 2011
- Post Doc Fellow, Technical University, Darmstadt, 2009
- Research Associate, DRDO Centre, Ministry of Defence, Govt. of India, 2008
- Senior Research Fellow, DRDO Centre, Ministry of Defence, Govt. of India, 2003-2008
- Adjunct Professor, Biomedical Instrumentation, Calcutta University & WB University of Health Sciences, 2015 –

Academic: (A Total post Ph.D. 14+ years of experience in the UGC Pay-scale)

No	Position Held	Year duration	Remarks if any
1 (i)	DRDO - Senior Research Fellow	2003-2008	Resigned and joined as Research Associate
1 (ii)	Visiting Scientist at Newcastle University	2010- (in two phases)	Term appointment ended
1 (iii)	Post Doc Research Associate – DRDO, Govt. of India	2009-2010	Resigned and joined as Scientist at DRDO
1 (iv)	Adjunct Lecturer (Calcutta University, Biomedical Instrumentation)	2008- 2014	----
1 (v)	Postdoc Research Fellow, Technical University, Darmstadt, Germany.	2009	-----
2	Scientist – (Reader grade) DRDO, Ministry of Defence, Govt. of India	2009 - 2015	Discontinuing under internal administrative issue pending at tribunal
3	Assistant Professor (Sr. Grade), Adamas University - India	June 2015- September 2017	Resigned and joined as Associate Professor
4	Associate Professor , Adamas University - India	September 2017 – October 2020	Resigned and joined as Professor
5	Professor ,Adamas University - India	November 2020 - present	---
6	Adjunct Professor at JAP-BMI (WBUHS & Calcutta University)	March 2014- till continuing	----

EXPERIENCE (Administrative) :

No	Position Held	Institute / University	Time period
1	Officer-in Charge , MBE Lab	DRDO lab, Govt. of India	2012-2014
2	Academic Coordinator – School of Science	Adamas University	2015-2017
3	Associate Dean, School of Science	Adamas University	2016-2020
4	Professor-in-Charge, Central Time Table	Adamas University	2016-2020
5	Dean (R&D) – Adamas University	Adamas University	2020 – continuing
6	Chairman – University Research Council	Adamas University	2020 – till continuing
7	NAAC Coordinator	Adamas University	2020 – till continuing
8	Member – PBAS Committee	Adamas University	2022 – till continuing
9	Convener – University Research Advisory Board	Adamas University	2020 – till continuing
10	Member, Ph.D. Research Board, (ECE stream)	MAKAUT (formerly WBUT)	2023- till continuing

Research Projects (Govt and Industry / Corporate): Total Grant : 209.59 Lakhs (till date)

1. “Development of a self- consistent Physics based predictive model for the computation of THz- window frequency signal attenuation in fog with varying visibility and in rain with varying rain rates”, INR 22.64 Lakh, funded by DRDO – Govt. of India , 2021-2023
2. “Design and development of III-V GaN on Sapphire epitaxial ATT structure for harmonic power generation at W-band frequency”, INR 32.10 Lakh, Funded by DRDO, Govt. of India, 2022-24.
3. “Design & development of low-cost non-invasive blood glucose monitoring unit for type I & II diabetic patients”, INR 5,00,000/- funded by Industry / Corporate 2018 -2021.
4. “Design optimization of III-V Nitride based on-Chip Terahertz source and oscillators for biomedical application”, INR 3,10,000/- funded by Industry / Corporate 2019-2022.
5. “Studies on device-circuit interaction effect of Terahertz source and application in medical imaging”, INR 1,85,000/- , funded by Industry / Corporate, 2019-2022.
6. “Design of Array type Terahertz source for non-invasive bio-imaging”, Grant: INR 13, 85, 000/- , funded by Industry / Corporate, 2020-2023
7. “The Development of AI Enabled Radiography Assisted Test Process for Mass-Screening of Ncovid-19 Patients”, 24 months, Elmax Systems & Solutions , MATLAB India, 1 user license MATLAB + 1 Project fellow + Travel & Consumables, Grant : 15,00,000/-, 2020-2021
8. “Terahertz Scanning and Imaging tool for biomedical industry”, INR 12,27,000/-, Funded by Industry / Corporate, 2022-2024
9. “Development of Blood Glucose monitoring unit”, INR 60,000/- per year , Funded by IEI – India, Industry / Corporate grant , 2023-2024

10. "Development of AI enabled Rain attenuation model at Terahertz regime", Start up industry / corporate grant : INR 6,75,000/- per year. 2023-2025 (Consultancy project)
11. "Development of Si epiwafer for MM-wave high power IMPATT diode" : DRDO, Govt. of India, INR 45,53,000.00 – 2023 – 2026
12. Establishment of Academic Administrative Development Centre – AADC under AIU , Project Coordinator & Nodal Officer, INR 2,50,000.00, 2024
13. ANVESHAN – AIU Research Convention, Program Coordinator & Nodal Officer, INR 2,00,000.00, 2024.
14. Establishment of Rekhi Centre of Excellence for Science of Happiness, Project Coordinator & Nodal Officer, INR 15,00,000.0 per year.
15. "Development of cashless payment system for retailers", RBI R&D grant, Rs. INR 18,50,000/- 2024-2027
16. "Development of low cost high sensitive hearing aid with flexible electronics", MSME start up grant, INR 2,00,000/- for first year (up to 25 L), 2025-2026
17. "Aeroponics assisted AI enabled microgravity plant growth chamber for space crop production", MSME start up grant, INR 5,00,000/- for first year (up to 25 L), 2025-2026

Research Patents:

1. UV Sanitizer Device, Patent Number: Patent Application Number: 202031027204, 2021 (Granted)
2. A Single Point Wearable Device for Isolation of the Patients having Infectious Diseases Including COVID-19, Patent Application Number: 2021105614, 2020 (Granted)
3. An AI based screening method for a detection and automated isolation of a Covid-19 positive patient, Patent Application Number: 2021104487, 2020 (Granted)
4. Adjustable and Portable Aeroponics System for Sustainable Plant Growth, Application No.395453-00 (Granted)
5. "An IoT Enabled Automated Aeroponics System" Patent Application No. 202431001915, Published, under examination.

Research Advisor / Supervisor:

- Doctoral Thesis Advisor / Supervisor : 6 (Under progress)
- Doctoral Thesis Advisor / Supervisor: 7 (6 Awarded, 1 Submitted)
- Post Graduate Thesis Advisor / Supervisor: 37 (Awarded)

Award/ Academic Recognition/ Major Professional Activity:

- Editor: Advanced Microwave and Millimeter Wave Technologies: Semiconductor Devices Circuits and Systems –ISBN: 978-953-307-031-5, INTECH (UK), March 2010
- Editor : "Silicon Carbide", - ISBN: 978-953-307-348-4, INTECH (UK).
- Editor: Springer Lecture Notes in Electrical Engg..
- Editorial Board Member : Journal of Scientific Letters (ISBN : 2456 1495)
- Editorial Board Member : World Science Research Journal (ISBN: 2331 1878):

- Editor: INTECH book “Terahertz Science & Technology: Present status and future trend”.
- Editor: Springer Book Computational Advancement in Communication, Circuits and Systems (ICCACCS):
- Editor: Springer Lecture Notes in Electrical Engineering

- Editorial Board Member: AR Research Publication and Conference World
- Editorial Board Member: International Journal of Wireless Communication and Sensor Network (WCSN)
- Editorial Board Member: Blue Eyes Intelligence Engineering & Sciences Publication (BEIESP)
- Editor: AIP Conference Proceedings on National Conference on Frontiers in Modern Physics (NCFMP 2018) :
- Editor Special issue Journal of Physics through Computation 2019,
- Editor: IoP Journal of Physics : Conference Series (2020)
- Editor: Elsevier Sensors International
- Editor: Special Issue, Open Biomedical Journal (Bentham Publishers)
- Editor: Springer Lecture Notes in Bioengineering
- Enlisted reviewer in IEEE Transactions, IEEE Access, IEI journal, Springer journals, AIP journals, Hindwai journals and IETE journals.
- Bharat Gourav Award: 2018
- Enlisted in Marques Who’s Who in the World, Marques Who’s Who in Science & Engineering
- Delivered Invited talk / Keynote talk in 19 International Conferences, Workshop, FDP in India and abroad.
- Editor, Lecture Notes in Electrical Engineering – Springer 2023
- Ph.D. Thesis examiner, Dhaka University, Bangladesh

Research Publication (s)

- Number of research papers published in International refereed SCI/SCOPUS journals 93:
- Number of research papers published in International peer-reviewed IEEE & Scopus Proceedings: 92
- Number of invited Book-Chapters: 13, Books : 03

For Details, Visit: <https://vidwan.inflibnet.ac.in/profile/159847>

A. Refereed Publications during 2024

1. S. Chatterjee and M. Mukherjee, "Si/Graphene exotic type IMPATT (p+-n-n+-) Opto-Sensor: First Experimental Observation", accepted for Materials Science in Semiconductor Processing (Impact factor: 4.2), 2024
2. Saunak Bhattacharya, Abhijit Kundu, Shajith D. Nair, Anna Chakraborty, Angsuman Sarkar, Moumita Mukherjee, "Design and Analysis of photo-electrical characteristics of Graphene/Si-Nanowire Photo-detector: A potential photo-detector for applications in IR detection", *Microsystem technologies*, <https://idp.springernature.com/authorize/email?code=d72cc82f-967f-4ad0-8750-20b26521e84b>, 2024
3. D. Chakraborty, A. Kundu, M. Chakravarti, M. Dey and M. Mukherjee, "Optically Modulated Organic Photo-sensor at Terahertz Regime," 2024 IEEE Applied Sensing Conference (APSCON), Goa, India, 2024, pp. 1-5, doi: 10.1109/APSCON60364.2024.10465884. (IEEE Explorer)
4. T. Saha, R. Dhar and Moumita Mukherjee, "Design and Characterization Studies of Superlattice AlGa_N/Ga_N Based High-K Dielectric-Modulated Dual-Gate Dual Channel Multi-Cavity MOSHEMT: Application in Medical Diagnostics", *Microsystem Technologies*, 2024, DOI:
5. T. Saha, R. Dhar and Moumita Mukherjee, "High-K dielectric-modulated dual-cavity MOSHEMT with III-V nitride Ga_N/AlGa_N semiconductors: application as biosensor", *Microsystem Technologies*, 2024, DOI:10.1007/s00542-024-05789-7.
6. A. Das, M. Mukhopadhyay, J. Mukhopadhyay, S. Mishra, S. Sutradhar, A. Sarkar, S. Biswas and Moumita Mukherjee, "Understanding the Ion Conductivity of Self-standing Poly-[Ethylene oxide] Composite Films through Non Fickian Diffusion Mediated Water Uptake Phenomena", *Journal of Polymer Research*, Vol. 31, p. 268, 2024
7. A. Das, M. Mukhopadhyay, J. Mukhopadhyay, S. Mishra, S. Sutradhar, A. Sarkar, S. Biswas and Moumita Mukherjee, "Influence of non-linear diffusion controlled phenomena on the sorption capability of PEO-Salt-SiO₂ composite electrolyte: A study on property optimization, *Journal of Non-Crystalline Solids*, Vol. 644, p.123179, 2024
8. Madhumita Mukhopadhyay Anamika Das, Satarupa Biswas, Moumita Mukherjee, Jayanta Mukhopadhyay, "Advancing Functionalization of Polymer Nanocomposite", Book: *Futuristic Trends in Chemical, Material Sciences & Nano Technology*, IIP Series; e-ISBN: 978-93-5747-708-6
9. Ajanta Palit, Karabi Ganguly and Moumita Mukherjee, "Novel Strategies Towards Early Bone Cancer Detection: Matlab Integrated Image Processing Approach(International), *Journal of Chemical Health Risk on March,2024*(Vol-14, Issue-2 Page:-12-19, Impact Factor-0.2,ISSN:22516727)
10. Ajanta Palit, Karabi Ganguly and Moumita Mukherjee Enhancing Lung Cancer Diagnosis with MATLAB and GLCM: A Robust Image Processing Approach(International) published in *TWIST,2024*(Vol-19, issue-1,Impact Factor-1.75,ISSN:454-462)
11. Ajanta Palit, Karabi Ganguly, Moumita Mukherjee and Utsab Ray, "Detection of Cancer Cells By Using Visible and IR Photo-sensors Through Image Processing Technique (International)", *YMER on January,2024* (Vol-23, Issue-1, Impact Factor -5.7,ISSN: 0044-0477)

B. Refereed Publications during 2023

1. D. Chakraborty, S. D. Nair and Moumita Mukherjee, Rain based attenuation and dispersion characteristics of Terahertz wave in tropical climate: Experimentally verified reliability study, March 2023, IEEE Access (IF : 3.5, SCI Journal).
2. D. Chakraborty and Moumita Mukherjee Propagation of Terahertz Signal through Tropical Thunderstorm - Proceedings of the IEEE (Scopus), *IEEE Explore*, ISBN: 978-1-6654-7206-7, Feb. 2023, 10.1109/EDKCON56221.2022.10032876
3. S. Chatterjee and M. Mukherjee, "Role of Two-dimensional Electron Gas (2DEG) in GaN/AlGaN Avalanche Transit Time (ATT) Oscillator for RF Performance Boosting: Application in THz Opto-electronics", *Microsystem Technologies* in May 2023, (Impact factor: 2.012), Electronic ISSN:1432-1858, Print ISSN:0946- 7076
4. S. Chatterjee and M. Mukherjee, "Electrical characterization in Ultra-Wide-Band-Gap III Nitride heterostructure IMPATT/ HEMATT diodes: a room temperature sub-millimeter wave power source", *Journal of Electronic Materials*, Volume 52: 1552-1563, 2023, 10.1007/s11664022-10090-2. (Impact factor: 2.047), Print ISSN: 0361-5235
5. S. Bhattacharya, A. Kundu, D. Chakraborty, A. Sarkar and M. Mukherjee, "Strain Modulated Asymmetrical Si/SiGe Superlattice p+-i-n+ Switches for MMW Low-

- Loss Secure Communication Systems," in IEEE Transactions on Device and Materials Reliability, vol. 23, no. 1, pp. 14-26, March 2023, doi: 10.1109/TDMR.2022.3224444.
6. S. Bhattacharya, A. Kundu*, D. Chakraborty, A. Sarkar, S. Biswas and M. Mukherjee, "Photo-electric Characteristics Analysis of Quantum Corrected Strained Nanowire Drift-Diffusion Model based Si/Si_{0.98}Co_{0.02} Asymmetrical Super-lattice Near Infrared Photo-detector," 2023 4th International Conference on Computing and Communication Systems (I³CS), Shillong, India, pp. 1-3, doi: 10.1109/I³CS58314.2023.10127313, 2023.
 7. Karabi Ganguly, Ajanta Palit, Moumita Mukherjee, Utsab Ray and Kinshuk Ganguly, "Gastrointestinal Disorders: Identification, Detection, and Categorisation Based on Deeply Cognitive Networks and Epiglodean Characteristics (International)", YMER on December,2023 (Vol-22, Issue - 12,Impact Factor-5.7,ISSN:0044-0477)

C. Refereed Publications during 2022

1. S. Chatterjee and Moumita Mukherjee, "Electrical charecterization in ultra-wide band gap III-Nitride heterostructure IMPATT/HEMATT Diodes: A Room Temperature Sub-Millimeter wave power source", Journal of Electronic Materials (SCI), <http://doi.org/10.1007/s11664-022-10090-2>
2. S. Bhattacharya, A. Kundu, D. Chakraborty and Moumita Mukherjee, " Strain Modulated AsymmetricalSi/SiGe Superlattice P+-i-n+ switches for low-loss secure communication Systems, IEEE Transactions Device Materials Reliability, December 2022
3. S. Biswas, S Adhikari, R. Chawla, N. Maiti, D. Bhatia, P. Phukan and Moumita Mukherjee, "Artificial intelligence enabled non-invasive T-ray imaging technique for early detection of coronavirus infected patients", Informatics in Medicine Unlocked (Elsevier), DOI: <https://doi.org/10.1016/j.imu.2022.101025> , 2022
4. D. Chakraborty and Moumita Mukherjee, 1. Debraj Chakraborty and Moumita Mukherjee, "Terahertz window frequency signal attenuation and dispersion characteristics in Tropical Climate Zone: An experimentally validated reliability analysis", IEEE Access (IEEE publication), SCI journal (IF: 3.4), April, 2022, D.O.I. 10.1109/ACCESS.2022.3170480
5. Debraj Chakraborty and Moumita Mukherjee, Self-consistent non-linear physics based predictive model for the computation of terahertz signal attenuation in fog with varying visibility in tropical climate zone, Microsystem Technologies (Springer journal), SCI journal, IF: 2.27, DOI: 10.1007/s00542-022-05259-y, Issue: 03, March 2022
6. S. Chatterjee and Moumita Mukherjee, "Band-engineered quasi-AlGa_N/Ga_N high-

electron-mobility-avalanche-transit-time (HEMATT) oscillator: electro-optical interaction study in sub-mm frequency domain”, The European Physical Journal Plus, 137 (343), 2022, DOI: <https://doi.org/10.1140/epjp/s13360-022-02521-0>

7. S. Chatterjee, M. Mukherjee, "High electron mobility effect in band-engineered GaN/quasi-AlGa_N based exotic avalanche transit time diode arrays: application as ultra fast THz switches", *Microsystem Technol* 28, 1059–1067 (2022). DOI: <https://doi.org/10.1007/s00542-022-05261-4>

D. Refereed Publications during 2021

1. Moumita Mukherjee, Sulagna Chatterjee " Millimetre-wave high–low IMPATT source development: First on-chip", *Electronics Letters*, <https://doi.org/10.1049/ell2.12058> , 2021
2. D. Bhatia, A. Mishra and Moumita Mukherjee, "Amalgamation of Blockchain Technology and Internet of Things for Healthcare Applications", *Blockchain for 5G-Enabled IoT*, ISBN: 978-3-030-67490-8, DOI: https://doi.org/10.1007/978-3-030-67490-8_22, 2021
3. S. Chatterjee and Moumita Mukherjee, " Process-Induced Strain-Engineering in Nano-Scale: Coupled Effect of Quantum Confinement and Strain, an Unexplored Aspect of Advanced Materials Research with Immense Potential", *Advances in Materials Science Research Vol 44*, ISBN: 978-1-53619-028-1, <https://novapublishers.com/shop/advances-in-materials-science-research-volume-44/>
4. S. Chatterjee and Moumita Mukherjee, "Strained Si/Si_{1-y}C_y superlattice based quasi-read avalanche transit-time devices for terahertz ultrafast switches", *Applied Physics A*, ISSN: 0947-8396, <https://doi.org/10.1007/s00339-020-04187-w>, 2021
5. S. Biswas and Moumita Mukherjee, *In-Silico Studies of Alzheimer's Disease Affected Brain Using a Novel Terahertz Thermography Technique*, *Lecture Notes in Bioengineering (Springer)*, ISBN 978-981-336-915-3, pp. 311-318, 2021
6. S. Biswas and Moumita Mukherjee, *Comparative Study on Predictive Mathematical Models for Risk Assessment of nCOVID-19 Pandemic in India*, *Lecture Notes in Bioengineering (Springer)*, pp. 393-401, ISBN 978-981-336-915-3, 2021
7. A. Das, M. Kajilal and Moumita Mukherjee, *Strained Engineered-Induced Mobility P+IN+ Photodiode—A Novel Opto-sensor for Biomedical Application*, *Lecture Notes in Bioengineering (Springer)*, ISBN 978-981-336-915-3, pp. 175-181, 2021
8. D. Paul and Moumita Mukherjee, *A Review of Brain-Computer Interface*, *Lecture Notes in Bioengineering (Springer)*, ISBN 978-981-336-915-3, pp. 507-531, 2021
9. S. Biswas and Moumita Mukherjee, *COVID: A Hardware Accelerated Soft Computing Enabled Intelligent Value Chain Based Diagnostic Automation for nCOVID-19 Estimation and Identification*, *International Journal of Statistics in Medical Research*, <https://doi.org/10.6000/1929-6029.2021.10.14>
10. S. Biswas, Moumita Mukherjee, *A Dual Diagnostic Measure driven pragmatic approach for nCOVID-19 Detection by Pervasive Computing*, *IEEE Explore*,

11. S. Biswas, C Chakraborty, Moumita Mukherjee, "A pragmatic approach for detecting nCovid19 using pervasive computing based on dual diagnostic measures", International Journal of Statistics in Medical Research, vol. 10, pp. 183-193, 2021, DOI: <http://dx.doi.org/10.6000/1929-6029.2021.10.17>
12. S. Biswas, Moumita Mukherjee, "Chest X-Ray image and pathological data based artificial intelligence enabled dual diagnostic method for multi-stage classification of COVID-19 patients", AIMS Biophysics, <https://doi.org/10.3934/biophy.2021028>, 2021
13. "Strain engineered asymmetrical Si/SiGe IR photo-detector, theoretical reliability and experimental feasibility studies : D Chakraborty and Moumita Mukherjee", IEEE Trans Device Materials Reliability, 2021, <https://doi.org/10.1109/TDMR.2021.3125452>
14. "Design and characterization of asymmetrical super-lattice Si/4H-SiC pin photo diode array: a potential opto-sensor for future applications in bio-medical domain Abhijit Kundu, S Adhikari, A Das, M Kanjilal, Moumita Mukherjee", Microsystem Technologies, Volume 27, pages 569–584 (2021)

E. Refereed Publications during 2020

1. D Modak, A Kundu and Moumita Mukherjee, "Multiple-Graphene Layer based p++-n- - n++ device on Si/3C-SiC (100) substrate: a high sensitive visible photo-sensor", Semiconductor Science & Technology, <https://doi.org/10.1088/1361-6641/ab909b> , May 2020
2. S. Adhikari, Moumita Mukherjee, "Design and Analysis of Novel Room Temperature T-Ray Source for Biomedical Imaging: Application in Full Body Prosthetics", Springer book on Computer Vision and Machine Intelligence in Medical Image Analysis, pp. 137-148. 2020
3. D. Chakraborty, B. Maity and Moumita Mukherjee, "Design and development of an AlGaIn/GaN heterostructure nano-ATT oscillator: experimental feasibility studies in THz domain", IET Micro & Nano Letters, vol. 15, issue 1, pp. 41-46, 2020; <https://doi.org/10.1049/mnl.2019.0167>
4. S. Adhikari, D . Bhatia and Moumita Mukherjee, "Super-lattice GaN/AlxGa1-xN nanoscale MITATT oscillator as Terahertz radiation source: Novel application in breast cancer imaging", Sensors International (Elsevier), vol. 1, p. 100014, <https://doi.org/10.1016/j.sintl.2020.100014>.
5. S. Biswas and Moumita Mukherjee, "Risk Assessment of nCOVID-19 Pandemic In India: A Mathematical Model And Simulation", doi: <https://doi.org/10.1101/2020.04.10.20060830>, BioRxiv, 2020 (April).
6. D. Chakraborty, S. Chatterjee and Moumita Mukherjee, "Hybrid Multi-Graphene/Si

Avalanche Transit Time <h-ATT> Terahertz Power Oscillator: Theoretical Reliability and Experimental Feasibility Studies”, IEEE Transactions on Device Materials Reliability, , vol. 20, Issue 4, pp. 667 – 677, Article DOI: 10.1109/TDMR.2020.3018664, August, 2020

7. S. Chatterjee and Moumita Mukherjee, “Direct Band Gap Silicon Nanowire Avalanche Transit Time THz Opto-Electronic Sensor with Strain-Engineering”, Optical and Quantum Electronics (Springer), vol. 52, p. 488, DOI: <https://doi.org/10.1007/s11082-020-02563-7>
8. S. Chatterjee and Moumita Mukherjee, “A 2-terminal quasi-AlGaIn/GaN/AlGaIn HEMATT oscillator as quanta-image sensor for single-photon detection applications in defence industry”, Quantum 2020, IoP (UK) Conference, Accepted.
9. Moumita Mukherjee & S. Chatterjee, “THz Medical imaging: Current status and future outlook”, THz Biomedical and Healthcare Technologies (Elsevier book), DOI: <https://doi.org/10.1016/B978-0-12-818556-8.00006-9>
10. D. Chakraborty and Moumita Mukherjee, “Study On Effect Of Photo-illumination On Si/SiC Asymmetrical Superlattice Avalanche Transit Time Device: A High Power Terahertz Room Temperature Source”, DOI: 10.1109/NCETSTE48365.2020.9119951, June -2020
11. S. Das, S Neogi and Moumita Mukherjee, “Effect of temperature and deposition rate on the surface morphology of thin Al metal films on glass substrate: Application in Solar Cell”, Journal of Physics: Conference Series, Volume 1579, Year 2020
12. S. Chatterjee and Moumita Mukherjee, “Strained Si/Si_{1-y}C_y superlattice based quasi-read avalanche transit-time devices for terahertz ultrafast switches”, Applied Physics (A), 2020, DOI: <https://doi.org/10.1007/s00339-020-04187-w>
13. Saikat Adhikari, D. Chakraborty, A.Kundu and Moumita Mukherjee, “Exotic IMPATT Oscillator for Terahertz Thermography: Feasibility Studies in Hepatic Tumor Detection” IETE Journal of Research, 2020 DOI: 10.1080/03772063.2020.1864236

F. Refereed Publications during 2019

1. Abhijit Kundu, Maitreyi Ray Kanjilal, and Moumita Mukherjee, “Physics based Non-linear Large-Signal analysis of Multiple-Graphene Layer exotic pin (p⁺⁺-n⁻-n⁻-n⁺⁺) devices and ultra-fast SPST/SPDT/SPMT switches on Si/3C-SiC (100) substrates for application in THz- Communication”, Microsystem Technologies, pp. 1-19, January, 2019. DOI: 10.1007/s00542-019-04325-2 , Springer-Nature
2. S. Chatterjee and Moumita Mukherjee, “Strain-engineered asymmetrical superlattice Si/Si_{1-x}Gex Nano-ATT <p⁺⁺-n⁻-n⁺⁺> oscillator: Enhanced Photo-sensitivity in THz domain,” IEEE Transactions on Electron Devices (IEEE ED) July, 2019 , pp. 1-18, DOI (identifier) 10.1109/TED.2019.2923108.
3. Abhijit Kundu, M. Kanjilal, M. Mukherjee, “ Cubic Versus Hexagonal SiC vertical pin SPST/SPDT/SPMT Switches for MMW Communication Systems: A Modified Quantum

Drift- Diffusion Model for Switching Characteristics Analysis”, *Microsystem Technologies*, May 2019, pp. 1-19, <https://doi.org/10.1007/s00542-019-04445-9> , Springer-Nature

4. Debraj Chakraborty and Moumita Mukherjee, “Si/SiC Heterostructure MITATT oscillator for higher-harmonic THz-power generation: Theoretical reliability and experimental feasibility studies through a novel Quantum modified non-linear classical approach”, August 2019, *Microsystem Technologies*. <https://doi.org/10.1007/s00542-019-04580-3>
5. Saikat Adhikari and Moumita Mukherjee, “Prospects of Avalanche Transit Time Terahertz Radiation Source in Biomedical Imaging: Application Feasibility in Health Engineering”, Springer - Biomedical Engineering & its Application in Healthcare - Book ISBN: 978-981-13-3704-8, pp. 1-23, 2019. Springer Verlag ; https://doi.org/10.1007/978-981-13-3705-5_22
6. Moumita Mukherjee, *A Text Book of Engineering Physics*, Aryan National Publishing House (India), 2019, February, ISBN: 9788193894231. Pp. 1- 550

G. Refereed Publications during 2018

1. Abhijit Kundu, M. Kanjilal and Moumita Mukherjee, “III-V Super-lattice SPST/SPMT pin Switches for THz Communication: Theoretical Reliability and Experimental Feasibility Studies”, *Microsystem Technologies*, July, 2018, 1-16, DOI: <https://link.springer.com/article/10.1007/s00542-018-4053-5> , Springer-Nature
2. Abhijit Kundu, S. Adhikari, A. Das, M. Kanjilal and Moumita Mukherjee, “Design and characterization of asymmetrical super-lattice Si/4H-SiC pin photo diode array: a potential opto- sensor for future applications in bio-medical domain”, *Microsystem Technologies*, September 2018, DOI:10.1007/s00542-018-4119-4 , pp. 1-23, Springer-Nature
3. A. Palit , K Ganguly and Moumita Mukherjee, “Effects of optical irradiation on III-V Avalanche Photo-diodes”, *Journal of Physics Through Computation*, 2 (1) pp. 26 - 29 , 2018
4. A. Kundu, D. Modak, J. Kundu and Moumita Mukherjee, “Design and Characterize the GaN/AlGaN Asymmetrical Super-lattice Exotic pin Photo-Sensor in Visible Wavelength”, *Journal of Physics Through Computation*, 2 (1) pp. 37 - 40 , 2018
5. D. Datta and Moumita Mukherjee, “Design of A Single Band Pentagonal Microstrip Patch Antenna for purpose of Medical Equipment”, *Journal of Physics Through Computation* , 2 (1) pp. 30 - 36, 2018
6. D. Paul and Moumita Mukherjee, Automation of wheelchair using brain computer interface (BCI) technique”, *AIP Proceedings*, 2018, 2072 (1),020004
7. N Biswas, Moumita Mukherjee, S Chatterjee , “Determination of junction depth in ion implanted millimeter wave (MMW)-transit time devices by a modified three

moment approach”, AIP Conference Proceedings 2018, 2072 (1),020009

8. A Kundu, J. Kundu, D Modak, Moumita Mukherjee, “Quantum modified drift-diffusion modeling of vertically doped asymmetrical pin switches for application in MMW system”, AIP Conference Proceedings 2018, 2072 (1),020001

H. Referred Publications during 2017

1. P. R Tripathy, Moumita Mukherjee, SP Pati, “Performance of 4H-SiC and Wz-GaN Over InP IMPATT Devices at 1.0 THz Frequency”, Physics of Semiconductor and Devices (IWPSD), Springer book series, pp. 1267-1271, 2017

I. Referred Publications during 2016

1. PR Tripathy, Moumita Mukherjee, SP Pati , “Photosensitive InP IMPATTs in the THz Regime: Modulation of Frequency-Chirping by Optical Means”, Advanced Science Letters 22 (2), 545-550, 2016
2. J Kundu, A Kundu, M Kanjilal, Moumita Mukherjee , “A 2D-thermal model for estimation of heat-dissipation in SiC based pin switches used for RF communication”, Frontiers computer, communication and electrical engineering, Book, 183-185, 2016
3. Abhijit Kundu, Maitreyi Ray Kanjilal, Arun Bera, Jhuma Kundu and Moumita Mukherjee, “III-V Nitride based Solid State p-i-n Switch for Application in Millimeter Wave Secure Communication”. IJCA Proceedings on International Conference on Emerging Trends in Informatics and Communication ICETIC 2016(1):28-32, September 2016

J. Referred Publications during 2015

1. Moumita Mukherjee, P. Tripathy and SP Pati “Si/SiC-based DD hetero-structure IMPATTs as MM-wave power-source: a generalized large-signal analysis”, Journal of Semiconductors (IOP-UK), , vol. 36, No. 6, June 2015.
2. A Acharyya, Moumita Mukherjee, JP Banerjee, Effects of tunneling current on millimeter-wave IMPATT devices”, International Journal of Electronics 102 (9), pp. 1429-1456, 2015
3. A Das, C Banerjee, B Datta, Moumita Mukherjee , “Estimation of Slot Position for a Slotted Antenna”, Computational Advancement in Communication Circuits and Systems, pp. 11-18, Maharatna K., Dalapati G., Banerjee P., Mallick A., Mukherjee M. (Eds) Computational Advancement in Communication Circuits and Systems. Lecture Notes in Electrical Engineering, vol 335. 2015, Springer.
4. Das A., Datta B., Moumita Mukherjee. “Design and Development of Low-Level RF Digital Feedback Loop” Maharatna K., Dalapati G., Banerjee P., Mallick A., Mukherjee M. (Eds) Computational Advancement in Communication Circuits and Systems. Lecture Notes in Electrical Engineering, pp. 3-10, vol 335. 2015, Springer
5. Moumita Mukherjee, Ghosh K.K. , “Light Absorption in Nano-film of Wide Band Gap

Semiconductor. In: Lakshminarayanan V., Bhattacharya I. (Eds) Advances in Optical Science and Engineering. Springer Proceedings in Physics, vol 166., pp. 353-358, 2015, Springer

K. Referred Publications during 2014

1. S. Laha and Moumita Mukherjee, "Physics based modeling of intrinsic material parameters of III-V Nitride Semiconductors: Elevated temperature effect", , International Journal of Recent Technology and Engineering, IJRTE, vol -2, issue -6, pp. 48 -50, 2014
2. PR Tripathy, M Mukherjee, SK Choudhury, SP Pati, "Ge/Si Based DDR IMPATTs: A potential millimeter-wave source at 140 GHz atmospheric window", Advanced Science Letters 20 (3-4), pp. 846-849, 2014
3. Dipankar Ukil and Moumita Mukherjee, "Physics based modeling of electrical properties of II-VI ZnO semiconductor material under elevated operating temperature condition", , Int. J. of Materials Engineering Innovation (IJMATEI), 2014
4. P. Tripathy, Moumita Mukherjee and S P Pati "Prospects and issues of Diamond based IMPATT Diode at MM-Wave Frequency", Physics of Semiconductor Device, Springer, pp. 235-238, 2014.
5. Moumita Mukherjee and D N Bose "Large Signal Analysis of III-V Nitride Based DD Transit Time Device: A New Source for THz Power Generation", (Invited paper), Physics of Semiconductor Device, Springer, pp. 107-111, 2014.
6. Moumita Mukherjee, "Large Signal Physical Operation of a III-V Nitride Based Double Velocity Transit Time Device: A Potential Source For THz Imaging", Physics of Semiconductor Devices, Springer, pp. 225-228, 2014

L. Referred Publications during 2013

1. S. Dey and Moumita Mukherjee "GaN/AlGaN heterojunction THz device", IOSR Journal of Electronics and Communication Engineering (IOSR-JECE), ISSN: 2278-2834, ISBN: 2278-8735. Volume 4, Issue 4 , PP 20-23, 2013
2. S. Jana, B. Mahapatra, S. Dey, A. Das, B. Datta and Moumita Mukherjee, "Single layer, monopole, hexagonal, microstrip patch antenna for satellite television", International J of Soft computing and Engineering, vol. 2, issue 6, pp.321-324, 2013
3. S Jana, B Sinhamahapatra, S Dey, A Das, B Datta, M Mukherjee, "Single Layer Monopole Hexagonal Microstrip Patch Antenna for Direct Broadcast Satellite (DBS) System", International Journal of Computational Engineering Research, Vol. 3, pp. 110-115, 2013
4. A.Kundu, M. Kanjilal and Moumita Mukherjee, "Switching characteristics of p-i-n diode using different semiconductor materials", Int. J of Advanced Technology and Engineering Research, vol-3, 2013, pp. 19-22

5. A. Kundu, M. Kanjilal and Moumita Mukherjee, "Insertion loss and isolation of p-i-n switch based on SiC family", *Journal of Electron Devices*, vol. 18, pp. 1568 – 1574, 2013
6. B Sinhamahapatra, S Jana, S Dey, A Das, B Datta, Moumita Mukherjee, "Dual-Band Size Deducted Un-Equal Arm Y-Shaped Printed Antenna for Satellite Communication", *International Journal of Engineering Research and Development (IJERD)*, Vol. 5, pp. 36-40, 2013
7. S. Jana, Bipadtaran Sinhamahapatra, Sudeshna Dey, Arnab Das, Bipa Datta, Moumita Mukherjee, Samiran Chatterjee, "Single Layer Monopole Hexagonal Microstrip Patch Antenna for Satellite Television", *National Conference on Advancement of Computing in Engineering Research (ACER-13)*, Article No.-51, PP.19-20, March-2013; DOI:10.5121/csit.2013.3234; CS&IT-CSCP2013; vol.3, No.2, 2013; PP.369-375, March 2013.
8. Moumita Mukherjee, "Role of Ge in the Growth of 3C-SiC on <100> Si Substrate for Improved p-n Junction Device Performance", *Proc. of IEEE International Applied Electromagnetic Conference, AEMC-2013*, KIIT University, Bhubaneswar, India.
9. Moumita Mukherjee & D. N. Bose, "IV-IV and III-V wide bandgap semiconductors as new source for THz power generation", (Invited paper) *Proc of International Conference of Materials Research Society, IUMRS-2013*, Indian institute of science, IISc-Bangalore, 2013
10. Moumita Mukherjee, "Role of Ge in improving interface roughness of 3C-SiC/Si hetero-epitaxy: A novel Technique", *Proc of International Conference of Materials Research Society, IUMRS-2013*, Indian institute of science, IISc-Bangalore, 2013.
11. Abhijit Kundu, Maitreyi Ray Kanjilal, Arnima Das, Jhuma Kundu, Moumita Mukherjee, "Cubic structure SiC as RF switch, *Third International Conference on Computational Intelligence and Information Technology (CIIT 2013)*, pp. 482 – 484, 2013
12. Moumita Mukherjee and D N Bose "Large Signal Analysis of III-V Nitride Based DD Transit Time Device: A New Source for THz Power Generation", (Invited paper), *Physics of Semiconductor Device*, Springer, pp. 107-111, 2014.
13. B Datta, A Das, A Kundu, Moumita Mukherjee, SK Chowdhury, "Triple band slotted patch antenna for microwave communication", *2013 3rd IEEE Proc. International Advance Computing Conference (IACC)*, pp. 202-206
14. B Datta, A Das, A Kundu, S Chatterjee, Moumita Mukherjee, SK Chowdhury, "Twice-band irregular rectangular cut-in microstrip patch antenna for microwave communication", *2013 IEEE Proc. International Conference on Information Communication and Embedded Systems*, DOI: 10.1109/ICICES.2013.6508388
15. A Das, B Datta, S Chatterjee, Moumita Mukherjee, SK Chowdhury, "Dual-band slotted microstrip patch antenna design for application in microwave communication", 2013

IEEE International Conference on Information Communication and Embedded Systems, pp. 850-855, 2013

16. Moumita Mukherjee and S. Jana, "Microstrip Patch Antenna for Microwave Communication: Microstrip Antenna Theory: Modeling and Development", LAP Lambert Academic Publishing, 2013, ISBN: 365931336X, 9783659313363

M. Referred Publications during 2012

1. A. Das, D. Chakraborty, Moumita Mukherjee, U.C. Ray, "Chirp Bandwidth Estimation of Pulsed IMPATT Oscillator at 94 GHz Window: A Simplified Approach", IETE J of Research, vol. 58, Issue – 4, 266-271, 2012.
2. B. Datta, A. Das, S. Chatterjee, Moumita Mukherjee and S.K. Chowdhury, "Monopole slotted patch-Antenna for microwave communication", Int. J. of Scientific and Research Publication, vol -2, issue 11, pp. 1-8. Nov. 2012. (ISSN 2250-3153) , 2012
3. A.Das, B. Datta, S. Chatterjee, Moumita Mukherjee and S.K. Chowdhury, "Multi-resonance slotted Microstrip antenna for C, X, and Ku band application", IOSR Journal of Electrical and Electronics Engineering (IOSR- JEEE), Volume 2, Issue 6, pp. 47-52, 2012 (ISSN: 2278-1676).
4. A. Das, B. Datta, S. Chatterjee, Moumita Mukherjee and S.K. Chowdhury, "A printed micro-strip antenna for RADAR communication", IOSR Journal of Electrical and Electronics Engineering (IOSR-JEEE), Volume 3, Issue 5, pp. 1-4, 2012 (ISSN: 2278-1676).
5. Supriya Jana, Bipadbaran Sinhamahapatra, Sudeshna Dey, Samiran Chatterjee, Arnab Das, Bipra Datta, Moumita Mukherjee, Santosh Kumar Chowdhury, "Single Layer Monopole Hexagonal Microstrip Patch Antenna for Microwave Communication", International Referred Journal of Engineering and Science, Vol. 1, pp. 44-48, 2012
6. A.Das, B. Datta, S. Chatterjee, Moumita Mukherjee and S.K. Chowdhury, "Multi-band slotted Microstrip patch antenna for application in microwave communication", Int. J. of Science and Advanced Technology (IJSAT), vol. 2, issue 9, pp. 91-96, 2012, (ISSN 2221-8386).
7. B. Datta, A. Das, Moumita Mukherjee, "Twice band microstrip hexagonal slotted patch antenna for microwave communication", International J of Scientific and Engineering Research, vol. 3, issue 12, pp. 1-7, 2012
8. Moumita Mukherjee, "Chirp Band-Width Estimation of MM-Wave Pulsed-MPATT: A Study on the Dependence of Device Diameter and Bias Pulse-Width", Procedia Technology (Elsevier, UK), vol. 4, pp. 437 -441, 2012.
9. P. Tripathy, Moumita Mukherjee and S.P. Pati, "MM-wave performance and avalanche noise estimation of hexagonal SiC and GaN IMPATTs for D-band applications", Int. J of Microwave and Wireless Technology (Cambridge), vol. 4, issue -4, 473-481, 2012.

10. M. Kanjilal, D. Ghosh and Moumita Mukherjee, "Studies of electrical characteristics of MESFET using WBG IV-IV SiC as potential substrate material", *Int. J. of Science and Advanced Technology*, vol. 2, issue 6, pp. 71- 76, 2012 (ISSN: 2221-8386).
11. Moumita Mukherjee, P. Tripathy, and S. P. Pati, "High-frequency limitations in Si, GaAs and InP ATTs caused by avalanche response time delay", *Proc. of 99th Indian Science Congress, Bhubneshwar, India, 2012*.
12. Arnab Das, Bipadatta, Samiran Chatterjee, Bipadatan Sinhamahapatra, Supriya Jana, Moumita Mukherjee, Santosh Kumar Chowdhury, "A Compact Multi-resonant Microstrip Antenna", *13th Biennial National Symposium on Antennas and Propagation 2012 (APSYM 2012)*, ISBN: 978-43-80095-40-0; PP.99-102, December 2012.
13. Moumita Mukherjee, PR Tripathy, SP Pati, "GaN/AlGaN based complementary p+-p--p-n+ATT-device for application in THz Imaging", *2012 5th IEEE Proc. on International Conference on Computers and Devices for Communication*, pp. 1-4, 2012.
14. Moumita Mukherjee, D Chakraborty, "Large-Signal Modeling of Hexagonal (4H-) SiC Based Double Drift Transit Time Device as High-Power MM-Wave Source at W-band Window Frequency", *16th International Workshop on Physics of Semiconductor Devices Springer book series*, 8549, 85490V, 2012
15. Moumita Mukherjee, "High-Power Hexagonal SiC Device: A Large-Signal High-Frequency Analysis", *Book Chapter in "Physics and Technology of Silicon Carbide"*, invited Chapter in INTECH, p. 337, 2012
16. Moumita Mukherjee, M Garai, D Chakraborty, "A comparative study of dynamic characteristics of asymmetrical ATT diodes based on various semiconductor materials with increasing band-gap energy", *16th International Workshop on Physics of Semiconductor Devices*, SPIE Proc, 8549, 85490F, 2012, DOI: <https://doi.org/10.1117/12.927419>
17. Moumita Mukherjee, D Chakraborty, A Das, "Heterojunction versus homojunction transit time devices at elevated junction temperature: performance comparison at MMwave window frequency", *Springer book series, 16th International Workshop on Physics of Semiconductor Devices Vol. 8549, 85490G*, 2012, SPIE Proc. DOI: <https://doi.org/10.1117/12.927421>
18. S. P. Pati, P. Tripathy and Moumita Mukherjee, "Si, SiC Homo Junctions and n-SiC/p-Si Hetero Junction: mm-Wave Performance Characteristics", *International SPIE (USA) Proc. of IWPSD 2011, SPIE Proc. 2012, IIT- Kanpur, India*, DOI: <https://doi.org/10.1117/12.926955>.
19. Moumita Mukherjee, "III-V Nitride Based Novel Solid-State Terahertz Power-Source: Application in Defense and Industry", *Invited book chapter in Handbook of Research on Industrial Informatics and Manufacturing Intelligence: Innovations and Solutions*,

IGI –Global publisher, pp. 492-506, 2012

20. Arnab Das, Bipra Datta, Samiran Chatterjee, Bipadbaran Sinhamahapatra, Supriya Jana, Moumita Mukherjee, Santosh Kumar Chowdhury, "A Compact multi-resonant microstrip antenna", 13th Biennial National Symposium on Antennas and Propagation, 2012
21. Bipra Datta, Arnab Das, Samiran Chatterjee, Bipadbaran Sinhamahapatra, Supriya Jana, Moumita Mukherjee, Santosh Kumar Chowdhury, "Design of compact patch antenna for multi-band microwave communication", National Conference on Sustainable Development through Innovative Research in Science and Technology (Extended Abstracts), 2012

N. Referred Publications during 2011

1. Moumita Mukherjee, N. Mazumder and S. K. Roy, "Prospects of photo-sensitive InP based Top Mounted and Flip Chip IMPATT oscillators for application in THz regime", Int. J. of Electronics (Taylor and Francis Publication, UK), 2011, DOI: <https://doi.org/10.1080/00207217.2010.520154>.
2. Moumita Mukherjee, P. Tripathy and S.P. Pati, "Potential of Asymmetrical Si/Ge and Ge/Si based Hetero-junction Transit Time Devices over Homo-junction Counterparts for Generation of High-Power", Journal of Semiconductors (IoP publishing, UK), vol. 32, no. 11, doi:10.1088/1674-4926/32/11/113001, p. 113001, 2011.
3. D. Chakraborty, A. Das, P. Bhattacharyay, M. Garai and Moumita Mukherjee, "Design Optimization of High-Power Pulsed Mode IMPATT Oscillator: A Generalised Modelling on Sensitivity Analysis", International J of Computer Sc Engineering and Technology, Issue 5, 253-258, 2011.
4. A. Acharyay, Moumita Mukherjee and J. P. Banerjee, "Noise in Millimeter-wave mixed tunneling avalanche transit time diodes", Archives of Applied Science Research, vol 3, pp. 250-266, 2011 (ISSN 0975-508X)
5. P. Tripathy, Moumita Mukherjee and S P Pati, "Dynamic properties and avalanche noise analysis of 4H-SiC over wz-GaN based IMPATTs at mm-wave window frequency", Semiconductor Physics, Quantum Electronics and Optoelectronics, vol. 14, No. 2, pp. 137-144, 2011.
6. A. Acharyay, Moumita Mukherjee and J P Banerjee, "Influence of Tunnel current on DC and dynamic properties of Silicon based Terahertz IMPATT source", Int. J of Terahertz Science and Technology (UK), vol. 4, No. 1, pp. 26-41, March 2011, March 2011 (1941-7411).
7. A Acharyya, J Mukherjee, M Mukherjee, JP Banerjee, "Heat sink design for IMPATT diode sources with different base materials operating at 94 GHz", Archives of Physics Research 2 (1), p. 107, 2011
8. Moumita Mukherjee, "Silicon Carbide Based Transit Time Devices: The New Frontier

in High-power THz Electronics”, in Book Chapter of INTECH publishing, pp. 142-169, Editor: R. Gerhardt, DOI: 10.5772/15537

9. Moumita Mukherjee “III-V Nitride based Lo-Hi-Lo type ATT diode: A novel device for high-power generation in THz-regime”, , Proc. of Indian Science Congress, January 2011.
10. S. P. Pati, P. R. Tripathy, Moumita Mukherjee and S. K. Chowdhury, “Breakdown/Microwave Characteristics of 12 GHz n-Si/p-Ge and n-Ge/p-Si Hetero Junctions”, Proc. of Indian Science Congress, January 2011.
11. P. R. Tripathy, Moumita Mukherjee and S. P. Pati, “Possible realization of near optimum efficiency from N-Si-Ge/P-Ge-Si DDR Hetero Structure IMPATT diode”, Proc. of 17th IEEE National Conference on Communications-NCC- 2011, Indian Institute of Science (IISc-Bangalore), India, 28-30th January, 2011. DOI: 10.1109/NCC.2011.5734708, 2011
12. P. R. Tripathy, Moumita Mukherjee and S. P. Pati, “Optimization of Bias Current Density for GaN High Power SD IMPATT Diode in THz Frequency Range”, (Extended abstract) Proc. of International Conf. on Electronic Systems, ICES- 2011,National Institute of Technology, NIT-Rourkela, Orissa, India 7th-9th January, 2011.
13. D. Chakraborty and Moumita Mukherjee, “Effects of Elevated Junction Temperature on the RF-Properties of Optimised IMPATTs: Estimation of Frequency Chirp-Bandwidth During Pulsed-Operation”, Proc. of IEEE Proc. International Conference on Network and Computer Science, April, 8-10, 2011, Kanyakumari, India, DOI: 10.1109/ICECTECH.2011.5941674.
14. P. Bhattacharyya, M. Garai and Moumita Mukherjee, “Optically controlled InP based Quasi Read ATT diode – A novel device at Mm-wave window frequency for high-power generation”, Proc. of International American Institute of Physics (AIP) for OPTICS’11, NIT, Calicut, May 2011, DOI: <https://doi.org/10.1063/1.3646840>.
15. Moumita Mukherjee, “Full-Scale Non-Linear Analysis of III-V Nitride Based Transit Time Diode for High-Power Generation in the Terahertz Regime”, Proc. of International Conference WOCSDICE-2011, Italy, April- 2011 (Extended Abstract).
16. D. Chakraborty and Moumita Mukherjee, “Prospects of heterojunction devices over homojunction counterparts for development of MM-wave High-power sources”, Proc. of National Conf. on Recent Advances on Materials and Technology-Haldia, India, 24th -26th June, 2011.
17. D.Chakraborty and Moumita Mukherjee, "Negative resistance properties of transit time diodes based on various semiconductor materials with increasing bandgap energy", Proc. of Int. Conf. on Condensed Matter Days – CMDAYS 2011-Gawhati University, India, August 24th- 26th, 2011.
18. Moumita Mukherjee, D.Chakraborty and A. Das , "Full-Scale Non-Linear Analysis of IV-IV Compound Semiconductor Based IMPATTs in High-Power Operation Mode at

MM-wave Window frequency", International IEEE Proc. of Applied Electromagnetics Conference (IEEE AEMC), December 2011, India, DOI: 10.1109/AEMC.2011.6256878.

19. N. Biswas and Moumita Mukherjee, "Effect of mobile space charge in Si and 4H-SiC based double -drift IMPATT at sub-millimeter wave window frequency Proc. of Int. IEEE Conf. ICMARS 2011, Jodhpur , India
20. A. Das, D. Chakraborty and Moumita Mukherjee, "Theoretical Estimation of Chirp-Bandwidth of Si Pulsed-mode IMPATT at MM-wave Window", Proc. of Int. IEEE Conf. ICMARS 2011, Jodhpur , India
21. Moumita Mukherjee and D. Chakraborty, "Effect of Illumination on Series Resistance of GAN and Si IMPATT oscillators: A study on MM-wave - optical interactions", Proc. of Int. IEEE Conf. ICMARS 2011, Jodhpur , India.
22. Moumita Mukherjee, D. Chakraborty and Arijt Das, "Millimeter wave characterization of Si IMPATT oscillator operating under large-signal conditions", Proc. of IEEE Conference- CALCON 2011, Jadavpur University, Kolkata, India
23. Moumita Mukherjee, "Fundamentals of Engineering Physics", A text book based on West Bengal University of Technology-'WBUT' Syllabus, for Engineering/B.Sc students, Aryan Publishing House, India (ISBN No: 81-921653 -4 -5)
24. Moumita Mukherjee, "SiC Devices on Different Polytypes,- Prospective and Challenges", Book-Chapter under the title 'Silicon Carbide,'IN-TECH Publisher (International Book Publishing-(UK), ISBN 978-953-307-348-4, Editor: Moumita Mukherjee, DOI: 10.5772/20543

O. Referred Publications during 2010

1. Moumita Mukherjee, N. Mazumder and S. K. Roy, " α -SiC nanoscale transit time diodes: performance of the photo-irradiated terahertz sources at elevated temperature", Semiconductor Science and Technology (IOP publishing, UK), doi: 10.1088/0268-1242/25/5/055008, volume-25, No. 5, pp. 1-12, (2010)
2. Moumita Mukherjee and J. P. Banerjee, "DDR Pulsed IMPATT Source at MM-Wave widow Frequency: High Power Operation Mode", International J. of Advanced Science and Technology, IJAST (Korean Journal), vol-19, pp. 1-12, June 2010.
3. Moumita Mukherjee and N. Mazumder, "Prospects of β -SiC Based IMPATT Oscillator for Application in THz Communication and Growth of β -SiC p-n Junction on Ge Modified Si <100> Substrate to Realize THz IMPATTs", J of Semiconductors (IOP Publishing, UK), vol. 31, No. 12, doi:10.1088/1674-4926/31/12/124001.
4. S. Banerjee, Moumita Mukherjee and J. P. Banerjee, "Bias current optimization of WurtziteGaN DDR IMPATT diode for high power operation at Terahertz frequency", International J. of Advanced Science and Technology, IJAST (Korean Journal), vol-16, pp. 11-20, 2010.

5. Moumita Mukherjee, et al., "Effects of mobile space-charge on dynamic characteristics and parasitic resistance of InP Terahertz IMPATT oscillator operating at elevated junction temperature", Archives of Applied Science Research (Scholars Research Library journal, USA), vol- 2, issue-3, pp.42-52, 2010.
6. J. Mukherjee, S. Banerjee, Moumita Mukherjee and J. P. Banerjee, "A comparative study on InP and α -GaN based IMPATT oscillators for Terahertz communication", Journal of Telecommunications, vol. 3, issue-1, pp. 14-21, (2010).
7. Moumita Mukherjee, S. Banerjee and J. P. Banerjee, "Dynamic characteristics of III-V and IV-IV semiconductor based Transit Time devices in the Terahertz regime: A comparative analysis", Int. J of Terahertz Science and Technology (UK), vol. 3, No. 3, pp. 97-108, 2010.
8. Moumita Mukherjee, "Wide-band-gap semiconductor based high-power ATT diodes at MM-wave and THz Regime: Device Reliability, experimental feasibility and photosensitivity", pp. 115 – 150, Editor": Moumita Mukherjee, Book Chapter in INTECH book, DOI: 10.5772/8751
9. A. Acharya, Moumita Mukherjee and J. P. Banerjee, "Noise performance of Millimeter-wave Silicon based mixed tunneling avalanche transit time (MITATT) diode", Int J. World Academy of Science, Engineering and Technology, vol. 63, p. 861-868, 2010, eISSN 2010-3778.
10. Moumita Mukherjee and J. P. Banerjee, Proc. Of 3rd IEEE Int. Conf.. on Micro and Nano Devices, structures and systems – 2010, IEEE-MiNDSS, Tamilnadu, India, January 22-23, 2010, pp. 163-167.
11. S. Banerjee, Moumita Mukherjee and J. P. Banerjee, "Studies on the performance of Wz-GaN DDR IMPATT diode at optimum bias current for THz frequencies" Proc. Of 3rd IEEE Conf.. on Micro and Nano Devices, structures and systems – 2010, IEEE-MiNDSS, Tamilnadu, India, January 22-23, 2010, pp. 157-162.
12. Moumita Mukherjee, J. P. Banerjee, "Effects of Impurity Bumps on Static and Dynamic Characteristics of IV-IV SiC-based IMPATT at Ka-band" Proc. Of National Conf. on Materials, Devices and Circuits in Communication Technology, MDCCT 2010, March 27-28, 2010, Burdwan University, India (Extended abstract)
13. Moumita Mukherjee, S. Banerjee and J. P. Banerjee, "Modeling of MM-Wave Pulsed IMPATT Oscillator: Effects of Parasitic Resistances and Package Parameters" Proc. Of National Conf. on Materials, Devices and Circuits in Communication Technology, MDCCT 2010, March 27-28, 2010, Burdwan University, India (Extended abstract).
14. Moumita Mukherjee, et al., "Avalanche breakdown and MM-Wave characteristics of Ga-X(As, P, N) p+ p- n n+ DDs", Proc. of National Conf. on Materials, Devices and Circuits in Communication Technology, MDCCT 2010, March 27-28, 2010, Burdwan University, India. (Extended abstract)
15. "Development of Needle Shape Pulse Modulator Circuit with Variable ON/OFF Time

- for High-Power Pulsed IMPATT Diode”, B. Banerjee, Moumita Mukherjee and J. P. Banerjee, Proc. of National Conf. on Materials, Devices and Circuits in Communication Technology, MDCCT 2010, March 27-28, 2010, Burdwan University, India. (Extended abstract)
16. S. Banerjee, Moumita Mukherjee, S.R.Karan, P. Roy Chowdhury, P.Roy, A. Chowdhury and J. P. Banerjee, “Terahertz performance of Wz-GaN based DDR IMPATT devices”, Proc. of National Conf. on Materials, Devices and Circuits in Communication Technology, MDCCT 2010, March 27-28, 2010, Burdwan University, India. (Extended abstract)
 17. Moumita Mukherjee et al., “DC and Microwave Behavior of SDR GaN-Based IMPATTs at 140GHz”, Proc. of National Seminar on Physics and Technology of Novel Materials”, (PTNM 2010), Sambalpur University, Odisha, India (Extended abstract)
 18. Moumita Mukherjee, “Mobile Space-Charge Effects on THz-Frequency Characteristics and Parasitic Series Resistance of InP IMPATT Device at Elevated Junction Temperature”, Proc. of IEEE International Conference on Microwave and Millimeter Wave Technology (IEEE- ICMMT 2010), May 8-11, 2010, pp. 480-483, Chengdu, China.
 19. Moumita Mukherjee, “Effects of Impurity Charge Bump on Dynamic Properties of InP Based Pulsed IMPATT Diode at Window Frequency”, Proc. of ACEEE Conference Series, International Conf. on Control, Communication and Power Engineering, Chennai, Tamilnadu, India, to be held 28-29 July, pp. 317-319, 2010.
 20. Moumita Mukherjee, “Breakdown phenomena and possible RF performance of Ge introduced Si based p+ p n n+ heterostructure IMPATTs” Proc. of IEEE International Symposium on Microwaves (IEEE-ISM 2010), 11th-14th December, NIMHANS Convention Centre, Bangalore, India 2010.
 21. Moumita Mukherjee et al., “Latest development in the field of Microwave and MM-Wave ATT diodes for application in RF communication”, Proc. of IEEE International Symposium on Microwaves (IEEE-ISM 2010), 11th-14th December, NIMHANS Convention Centre, Bangalore, India 2010.
 22. Moumita Mukherjee, “Effects of un-depleted epi-layer on parasitic resistance and high-frequency properties of avalanche transit-time diode at MM-wave window frequency”, Proc. of IEEE International Symposium on Microwaves (IEEE-ISM 2010), 11th-14th December, NIMHANS Convention Centre, Bangalore, India 2010.
 23. Moumita Mukherjee et al., “Suitability of Silicon/Germanium-Germanium/Silicon Hetero Structure p-n Junction Combination in Avalanche Breakdown Phenomena”, Proc of International Conf. on Condensed Matter Days (CMDAYS-2010), Kalyani University, India, 25th-27th August, 2010.
 24. Moumita Mukherjee, D. Chakraborty, J. P. Banerjee., “Comparative Analysis of Intrinsic Avalanche Response Time in Semiconductor Materials: A Study on the High-Frequency Limitation of Solid-State Transit Time Devices”, Proc of International Conf.

on Condensed Matter Days (CMDAYS-2010), Kalyani University, India, 25th-27th August, 2010.

25. Moumita Mukherjee, "WZ-GaN based Quasi-Read ATT Diode: A Novel High-Power THz Device with Reduced Parasitic Resistance", Proc. of 2010 IEEE International Conference on Electron Devices and Solid-State Circuits (IEEE-EDSSC-2010), Hong Kong, China, DOI: 10.1109/EDSSC.2010.5713780.
26. A. Acharya, Moumita Mukherjee and J. P. Banerjee, "Effect of Carrier Diffusion on the Parasitic Positive Series Resistance of Millimeter Wave DDR Si-IMPATT Diode [W-Band]", Proc. Of IEEE International Conference on Communication, Computers and Devices, Indian Institute of Technology, IIT-Kharagpur, December 10th – 12th, 2010.
27. Moumita Mukherjee, et al, "A Comparative Study of Asymmetrical Homojunction and Heterojunction IMPATTs Based on Si/Ge Materials Operating at MM-Wave Window Frequency", Proc. of IEEE International Conference on Communication, Computers and Devices, Indian Institute of Technology, IIT-Kharagpur, December 10th – 12th, 2010.
28. Moumita Mukherjee et al, "Dynamic Performance of a Si, Ge and Si_{0.5}Ge_{0.5} Based Impact Ionization Avalanche Transit Time Diode at W- Band Applications", Proc. of IEEE International Conference on Communication, Computers and Devices, Indian Institute of Technology, IIT-Kharagpur, December 10th – 12th, 2010.
29. D. N. Bose and Moumita Mukherjee, [Invited Paper], "New sources for Terahertz generation: SiC, GaN IMPATTs", Proc. of IEEE International Conference on Communication, Computers and Devices, Indian Institute of Technology, IIT-Kharagpur, December 10th – 12th, 2010.
30. Moumita Mukherjee, "III-V Nitride based Quasi-Read ATT Diode: A Novel High-Power THz Device with Reduced Parasitic Resistance", Proc. of International Joint Journal Conference on Computers and Communication Technology (IJJCCT-2010), Korea, December 27-28, 2010.
31. S. K. Dash, P. R. Tripathy, Moumita Mukherjee and S. P. Pati, "Avalanche mechanism in nano meter dimension GaAs p-n Junction and its rf performance between 0.2-0.4 Terahertz Frequencies", Proc. of International Conf. on Fundamental and Applications of Nanoscience and Technology ICFANT-2010, Jadavpur University, 9th-11th December, 2010.
32. Moumita Mukherjee, D. Chakraborty and Arijt Das, "Millimeterwave characterization of Si IMPATT oscillator operating under large-signal conditions", Proc. of IEEE Conference- CALCON 2011, Jadavpur University, Kolkata, India

P. Referred Publications during 2009

1. Moumita Mukherjee and S. K. Roy, "Wide bandgap III-V Nitride based Avalanche Transit Time diode in Terahertz regime: Studies on the effect of punch-through on high-frequency characteristics and parasitic series resistance of the devices", Current Applied Physics (Elsevier Publishing, UK), volume 10, issue 2, pp. 646-651,

(2010), doi information: 10.1016/j.cap.2009.08.010, Online published on 23-September-(2009)

2. Moumita Mukherjee and S. K. Roy, "Optically modulated III-V Nitride based Top-Mounted and Flip-Chip IMPATT oscillators at THz regime: Studies on the shift of Avalanche-Transit-Time phase delay due to photo-generated carriers", IEEE Trans. on Electron Devices (IEEE-ED), (IEEE publishing, USA), Vol. 56, Issue 7, pp. 1411-1417, July (2009).
3. Moumita Mukherjee and N. Mazumder, "Effect of charge-bump on high-frequency characteristics of α -SiC based double drift ATT diodes at MM-wave window frequencies", IETE Jr. of Research (IETE Publishing, India), vol. 55, pp. 118 -127, May-June (2009).
4. Moumita Mukherjee and S. K. Roy, "Optically modulated III-V Nitride based high-power IMPATT oscillator at MM-wave window frequency", EuMa International Journal of Microwave and Wireless Technology (EuMA publishing – UK), doi: 10.1017/S175907870999064X, vol. 1, issue 5, pp. 423-429, October (2009).
5. Moumita Mukherjee and N. Mazumder, Proc. of International symposium on Microwaves and Millimeterwaves: Basics and Technology, (ISoMM-09) Organised by Bose Institute, Kolkata, India, on 150th Birth Anniversary of Acharya J.C. Bose, 14th to 16th January 2009, Bose Institute, India.
6. Moumita Mukherjee and N. Mazumder, "Effects on charge bump on high frequency characteristics of hexagonal SiC based Avalanche Transit Time Diodes at Millimeter-Wave Window frequencies", Proc. of International symposium on Microwaves and Millimeter waves: Basics and Technology, (ISoMM-09), Organised by Bose Institute, Kolkata, India, on 150th Birth Anniversary of Acharya J.C. Bose, 14th to 16th January 2009, Bose Institute, Kolkata, India.
7. Moumita Mukherjee and D. N. Bose, "Cubic GaN based IMPATT device- A promising high-power Terahertz source", Proc. of IEEE Int. Workshop on Physics of Semiconductor Devices (IEEE- IWPSD 2009), 2009, 16th – 19th, 2009, pp. 518-521.
8. Moumita Mukherjee, S. Banerjee and J. P. Banerjee, "MM-wave performance of DDR IMPATTs based on cubic SiC", Proc. of IEEE Int. Workshop on Physics of Semiconductor Devices (IEEE- IWPSD 2009), 2009, Organised by IIT- Delhi and Solid State Physics Laboratory (SSPL- Delhi), December, 16th – 19th , 2009, pp. 533-536.
9. Moumita Mukherjee, "Optically controlled characteristics of III-V Nitride based MM-wave transit time devices", Proc. of IEEE- AEMC 2009, Organized by IRPE, University of Calcutta, December 14- 16, 2009, DOI: DOI: 10.1109/AEMC.2009.5430625.
10. Moumita Mukherjee, "III-V Nitride based IMPATT oscillators: studies on optical modulation of the MM-wave high-power devices" Proc. of IEEE International Symposium of Microwave and Optical Technology (IEEE- ISMOT 2009), Organised by University of Delhi, December 16th - 19th, 2009.

11. Moumita Mukherjee, "Hexagonal GaN based photo-irradiated IMPATT devices for application in MM-wave communication systems" Proc. of IEEE International Symposium of Emerging Trends in Electronic and Photonic Devices and Systems (ELECTRO - 2009), Organized by Banaras Hindu University, December, 22nd -24th, 2009, pp. 434-437. DOI: 10.1109/ELECTRO.2009.5441060
12. Moumita Mukherjee, S. Banerjee and J. P. Banerjee, "Mobile Space Charge Effects on Terahertz Properties of Wz-GaN Based Double Drift IMPATT Oscillators" Proc. of "International Conference on Computer and Devices for Communication IEEE-CODEC 2009", December 14-16, 2009, University of Calcutta, Institute of Radiophysics and Electronics India, Print ISBN: 978-1-4244-5073-2.
13. Moumita Mukherjee, "Effects of Punch-Through on Terahertz Frequency Characteristics of 4H-SiC Based p++ p n n++ IMPATT Devices", Proc. of "International Conference on Computer and Devices for Communication IEEE- CODEC 2009", December 14-16, 2009, University of Calcutta, Institute of Radiophysics and Electronics India, EDM-4882, Print ISBN: 978-1-4244-5073-2.

Q. Referred Publications during 2008

1. Moumita Mukherjee, N. Mazumder and A. Dasgupta, "Simulation experiment on optical modulation of 4H-SiC millimeter-wave high power IMPATT Oscillator", Journal of the European Microwave Association (EuMA Publishing - UK), vol. 4, 2008, pp. 276-282, (2008).
2. Moumita Mukherjee, N. Mazumder and S. K. Roy, "Prospects of 4H-SiC double drift region IMPATT device as a photo-sensitive high power source at 0.7 THz frequency regime", Active and Passive Electronic Components (Hindawi Publishing, USA), Vol. 2008, Article ID: 275357, pp.1-9, (2008).
3. Moumita Mukherjee, N. Mazumder and S. K. Roy, "Photosensitivity analysis of Gallium Nitride and Silicon Carbide Terahertz IMPATT oscillators: Comparison of theoretical reliability and study on experimental feasibility", IEEE Trans. on Device and Materials Reliability (IEEE-TDMR), (IEEE publishing, USA), Vol. 8, Issue 3, pp. 608-620, (2008).
4. Moumita Mukherjee and N. Mazumder, 'Modeling of high power 0.3 THz IMPATT oscillator based on 3C-SiC and growth of 3C-SiC on Si (100) substrate for possible IMPATT fabrication'. Proc. of "IEEE International Conference on Microwave and Millimeter Wave Technology (IEEE- ICMMT 2008), April 21 -24, 2008, Nanjing, P. R. China, Editor: Prof. ZhengheFeng Tsinghua University, China. Vol. 4, pp. 1802-1805
5. Moumita Mukherjee, N. Mazumder and S. K. Roy, 'Photo-irradiated high power 3C-SiC based Terahertz IMPATT oscillator'. Proc. of "32nd European Conference and Workshop on Compound Semiconductor Devices and Integrated Circuits – 2008, WOCS-DICE 2008", Leuven, Belgium, May 18 – 20, 2007, pp. 61-62.
6. N. Mazumder and Moumita Mukherjee, 'Growth of 3C-SiC on Si (100) substrate' Proc. of "32nd European Conference and Workshop on Compound Semiconductor Devices

and Integrated Circuits – 2008, WOCSDICE 2008”, Leuven, Belgium, May 18 – 20, pp. 49-50, 2007.

7. Moumita Mukherjee, J. Mukhopadhyay, J.P.Bandopadhyay and S.K.Roy, ‘Millimeter-wave properties of photo-illuminated double-drift InP IMPATTs at elevated Temperature’. Proc. of “IEEE International Conference on Microwave and Millimeter Wave Technology (IEEE- ICMMT 2008)” April 21 -24, 2008, Nanjing, P. R. China, Editor: Prof. ZhengheFeng , Tsinghua University, China. Vol. 2, pp. 897-900.
8. Moumita Mukherjee and Sitiesh Kumar Roy, ‘Optically controlled III-V GaN based avalanche transit time diode for application in Terahertz communication’. Proceedings of “IEEE-MTTs International Conference on Recent Advances in Microwave Theory and Applications (IEEE-MICROWAVE 08)” November 21-24, 2008, University of Rajasthan, Jaipur, pp. 191-194.
9. Moumita Mukherjee, ‘Prospects of α -SiC and β -SiC based p+ p n n+ IMPATT devices as sub-millimeter wave High-power sources’. Proc. of “IEEE-MTTs International Conference on Recent Advances in Microwave Theory and Applications (MICROWAVE 08)” November 21-24, 2008, University of Rajasthan, Jaipur, pp. 34-37.
10. Moumita Mukherjee and Sitiesh Kumar Roy, “Effect of package parameters on MM-wave properties of WBG α -SiC based Avalanche Transit Time diode operating at 35 GHz window”, Proc. of IEEE International Symposium on Microwaves-2008, IEEE-ISM 08, December, 4-6,2008, NIMHANS convention Centre, Indian Institute of Science, Bangalore, India.
11. Moumita Mukherjee , N. C. Mondal, P. Bhattacharyya, J.P.Banerjee and S.K.Roy, “Effect of LASER radiation on Si <111>p+nn+ structure: Simulation Analysis and experimental realization”, Proc. of IEEE International Symposium on Microwaves-2008, IEEE-ISM 08, December 4- 6,2008, NIMHANS convention Centre, Indian Institute of Science, Bangalore, India
12. A Das, Moumita Mukherjee, P. Bhattacharyya, N.C.Mondal, M.K.Pandit, J.P.Banerjee and S.K.Roy, “Direct injection locking of a Ka-Band Si SDR IMPATT diode for low phase noise”, Proc. of IEEE International Symposium on Microwaves-2008, IEEE-ISM 08, December 4- 6,2008, NIMHANS convention Centre, Indian Institute of Science, Bangalore, India.
13. Moumita Mukherjee and Sitiesh Kumar Roy, “Effect of charge bump on MM-wave properties of III-V InP based IMPATT diode at window frequency” Proc. of Indian Conference on Microwaves, Antenna Propagation and Remote Sensing, IEEE MTTs-InCMARS 2008, organized by International Centre for Radio Science (ICRS - Jodhpur),9th – 11th December, 2008, Jodhpur, India.
14. Moumita Mukherjee and S. K. Roy, “Design and Terahertz characteristics of hexagonal and cubic SiC based photo-irradiated IMPATT oscillators” Proc. of IEEE Asia Pacific Microwave Conference 2008, IEEE-APMC 2008, Hong Kong, China, 16th – 19th December, 2008, China , Paper no. 1963.

15. Moumita Mukherjee, S. Banerjee and J. P. Banerjee, "Mobile Space Charge Effects on Terahertz Properties of Wz-GaN Based Double Drift IMPATT Oscillators" Proc. of "International Conference on Computer and Devices for Communication IEEE-CODEC 2009", December 14-16, 2009, University of Calcutta, Institute of Radiophysics and Electronics India, Print ISBN: 978-1-4244-5073-2.

R. Referred Publications during 2007

1. Moumita Mukherjee and N. Mazumder, "Optically illuminated 4H-SiC THz IMPATT device", Egyptian Journal of Solids, (Invited paper), vol-30, no-1, pp. 85-99, (2007).
2. Moumita Mukherjee, N. Mazumder, S. K. Roy and K. Goswami, "GaN IMPATT diode: a photosensitive high power Terahertz source", Semiconductor Science and Technology (IOP publishing, UK), vol. 22, pp. 1258-1267, (2007).
3. Moumita Mukherjee and N. Mazumder, 'Optically illuminated GaN based THz IMPATT device', Proc. of MRS (Material Research Society, USA) Spring Meeting 2007 on "Materials and Material Structures Enabling Terahertz Technology" April 9-13, 2007, San Francisco, USA, Editor: Ingrid Wilke, Rensselaer Polytechnic Institute, p. CC7.7
4. Moumita Mukherjee, N. Mazumder and A. Dasgupta, 'Radiation effect on a high efficiency double drift region 4H-SiC Terahertz IMPATT diode', Proc. of "IEEE 5th International Conference on Microwave and Millimeter Wave Technology (IEEE-ICMMT 2007), April 19 -22, 2007, Tsinghua University, Guilin, China. pp. 655-658, Print ISBN: 1-4244-1049-5.
5. Moumita Mukherjee and N. Mazumder, 'Simulation studies on the photo-sensitivity of GaN Terahertz IMPATT device', Proc. of "31st European Conference and Workshop on Compound Semiconductor Devices and Integrated Circuits – 2007, WOCS-DICE-2007, May 20 – 23, 2007, Ed: Gaudenzio Meneghesso (University of Padova, Department of Information Engineering) Venice, Italy. pp. 427-430, ISBN/ISSN: 978-88-6129-088-4.
6. Moumita Mukherjee and N. Mazumder, 'Photo-Illuminated InP Terahertz IMPATT device', Proc. of IEEE 19th International Conference on Indium Phosphide and Related Materials (IEEE-IPRM 07), May 14-18, 2007, The Univ. of Tokyo, Japan (Matsue, Japan.), pp. 137- 140, Print ISBN: 1-4244-0875-X.
7. Moumita Mukherjee and N. Mazumder, 'Comparison of photo sensitivity of Si and InP IMPATT diodes at 220 GHz', Proc. of "IEEE International conference on Microelectronics, Electronics and Electronic Technologies (IEEE-MEET 2007), May 21-25, 2007, University of Zagreb, Croatia. pp. 72-77, .
8. Moumita Mukherjee, N. Mazumder and A. Dasgupta, 'Analysis of 4H-SiC millimeter - wave photo-illuminated high power IMPATT oscillator', Proc. of "IEEE Mediterranean Microwave Symposium: 12th Microcoll Conference 2007, May 14-16, 2007, Editor: T. Berceili , Budapest University of Technology and Economics, Budapest, Hungary,

pp. 187-190.

9. Moumita Mukherjee and N. Mazumder, 'Effect of Charge Bump on Series Resistance and Ka-Band Performance of 4H-SiC IMPATT Oscillator', Proc. of "IEEE International symposium on Integrated circuits" (IEEE-ISIC 2007), September 26-28, 2007, Nanyang Technological University, and IEEE- Singapore. p. 61
10. Moumita Mukherjee, N. Mazumder and K. Goswami, 'Simulation experiment on 4H-SiC Millimeter-wave photo-illuminated high power IMPATT oscillator'. Proc. of "IEEE International Semiconductor Conference (IEEE-CAS – 2007), 15th -17th October, 2007, Sinaia, Romania. Editor: G. Brezeanu of Univ. "Politehnica" of Bucharest, Romania P. 2.5.
11. Moumita Mukherjee, N. Mazumder, S. K. Roy and K. Goswami, 'Terahertz frequency performance of double drift IMPATT diode based on opto-sensitive semiconductor', Proc. of "IEEE-MTTs Asia Pacific Microwave Conference (IEEE-APMC) 2007, December 11-14, 2007, Bangkok- Thailand, pp. 1077-1080
12. Moumita Mukherjee, N. Mazumder, S. K. Roy and K. Goswami, [12] 'An opto-sensitive InP based IMPATT diode for application in Terahertz regime', Proc. of "14th International workshop on the physics of semiconductor devices" (IEEE-IWPSD 2007), December 16-20, Mumbai, India. Organized by IIT- Bombay and TIFR. pp. 392-395.

S. Referred Publications during 2006

1. Moumita Mukherjee and N. Mazumder, 'Effect of Optical Illumination on 4H-SiC DDR IMPATT diodes at 140 GHz', Proc. of International Conference on Computer and Devices for Communication IEEE-CODEC 2006, December 18-20, 2006, University of Calcutta, Institute of Radiophysics and Electronics India, pp. 298-301.
2. Moumita Mukherjee and N. Mazumder, 'Optically Illuminated 4H-SiC THz IMPATT device', Proc. of The XXVI Conference on: Solid State Physics and Material Science, 10-14 September, 2006, Minia University, Alexandria, Egypt, pp. E2 - 124-125.

