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|---------|------------------------------|--|--|---|--|-------------------------|--|----------------------------|
| 1 | S. Singha Roy, | “On the Einstein relation under size quantization in heterostructures semiconductor” | Proc. SPIE 10111,USA, Quantum Sensing and Nano Electronics and Photonics | XIV, 1011133 (27 January 2017); doi: 10.1117/12.2249554 . | | | | (27 January 2017); |

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|---------|--------------------------------|---|---|---|--|-------------------------|--|----------------------------|
| 1 | Sabyasachi Sen ^{a*} | Role of asymmetric magnetic electrodes in tuning spin selective rectification action of borazine [B₃N₃H₆] | Revised on 18-03-17 | International Journal Chem. Phys. | | | | 2016 |
| 2 | S.Singha Roy and P.bandyopadhy | DNA and Heisenberg Spin System”, | Physica A, Revised, PHYSA-13-1218R2 , status Date : 11 Feb 2016 | International Journal: (communicated) | | | | 2016 |
| 3 | S. Singha Roy, Multimodel, | Nonlinearity with Photoelectric Nanoscale Quantum Dot | PP.-427-440. | Modelling , Computing and Technological Innovations, ICMCTI-2017, March 23-25,U.I.T., B.U, ISBN: 978-93-86256-60-7.Excel India Publishers, New Delhi. | | | | 2016 |
| 4 | S. Singha Roy, , | A simple theoretical analysis of DNA regularity network system | Abstract Book , PP-60, | 3 rd Intenational Meet on advanced studies in Cell Signaling Network, CESIN-2016. 18-20 December 2016, | | | | 2016 |

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LIST OF PAPERS PUBLISHED BY FACULTY MEMEBRS OF DEPARTMENT OF Physics

| | | | | | | | | |
|---|---|--|--|--|--|----------------------------|--|-----------------------|
| | | | | IICB, Kolkata. | | | | |
| 5 | S. Singha Roy, | Geometrical analysis of Quantum statistical Energy Under size quantization in Heterostructured Semiconductors. | Abstract Book , PP-58, | ICAMTPBCS-2016Calcutta mathematical Society , Kolkata. | | | | Decemb er 9-11, 2016, |
| 6 | S. Singha Roy, | A Simple theoretical analysis of Fermi energy under Size Quantization of nanostructured material , | Abstract Book , PP-27-28, | TEQIP Sponsored International Conference on Industry Interactive Innovations in Science, Engineering and Technology, I3SET-2016, JISCE, Kalyani. | | | | October 25-26. |
| 7 | Swagata Bhattacharjee and Abhijit Biswas, | “Noise Analysis of III-V Anion Based MOSFETs” MICRO 2016, ISBN: 978-93-80813-45-5. | | | | , ISBN: 978-93-80813-45-5. | | 2016 |
| 8 | Swagata Bhattacharjee and Abhijit Biswas, " | Development of Noise model for InAsSb MOSFETs and their applications in low noise amplifiers" | (revised in Int. journal of Microsystems Technologies, Springer) | | | | | 2016 |

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|---------|---|--|--|--|--|-------------------------|-------------------------------------|----------------------|
| 1 | S.Singha Roy and P.bandyopadhy | Entropy Driven Denaturation and Bubble Nucleation in DNA Melting | Europhysics Letters,EPL, 109 , February 2015,48002. | <u>International Journal</u> | | 48002. | | 2015 |
| 2 | S.Singha Roy | A Simple Theoretical Approach to the Fermi Energy Under Size Quantization with Quantum Mathematical Modelling in Nanostructured Materials. | pp 299-305 | International Conference Proceedings Volume 146 of the series Springer Proceedings in Mathematics & Statistics, 14 October 2015 | | ISBN: 978-81-322-2546-1 | | 2015 |
| 3 | S.Singha Roy | The Einstein's theories in dimensional quantum mathematical model | | International Conference Proceedings MSAT 2015 , IMBIC , 21-23 December 2015 | | ISBN: | | 2015 |
| 4 | Swagata Bhattacharjee and Subhasri Dutta | A simulation Study of Nanoscale Ultrathin-body InAsSb-on-Insulator MOSFETs | Proceeding of ICAME 2015 | International Conference | Inter national | ISBN: 978-81-322-2255-2 | | 2015 |
| 5 | Swagata Bhattacharjee and Abhijit Biswas | Study of low frequency noise in InAsSb channel MOSFETs | Proceeding of CODEC 2015 | International Conference | Inter national | ISBN: 978-1-4673-9513 | | 2015 |
| 6 | | A Simple Theoretical Approach | pp 299-305 | International | | ISBN: 9 | | 2015 |

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| | | | | | | | | |
|---|--------------|--|--|--|--|------------------|--|------|
| | S.Singha Roy | to the Fermi Energy Under Size Quantization with Quantum Mathematical Modelling in Nanostructured Materials. | | Conference Proceedings Volume 146 of the series Springer Proceedings in Mathematics & Statistics, 14 October 2015 | | 78-81-322-2546-1 | | |
| 7 | S.Singha Roy | The Einstein's theories in dimensional quantum mathematical model | | International Conference Proceedings MSAT 2015, IMBIC , 21-23 December 2015 | | ISBN: | | 2015 |

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|---------|--|--|---|--|--|-------------------------|--|----------------------------|
| 1 | S. Sen and S. Chakrabarti | In silico design of a tunable molecular spin filter using chromium-carbon-chromium chains | Chemical Physics Vol: 428, Page No. 34-42 Year: 2014 | International Journal: | Inter natio nal Jour nal: | ISSN: 0301- 0104 | <u>Journal Impact factor: 1.957</u> | 2014 |
| 2 | S. Sen and S. Chakrabarti | Graphitic silicon nitride: a metal free ferromagnet with charge and spin current rectification | Chem Phys Chem Vol.: 15, Page No. 2756 – 2761 Year: 2014, | International Journal: | Inter natio nal Jour nal: | ISSN: 1439- 7641 | <u>Journal Impact factor: 3.349</u> | 2014 |
| 3 | M.Chattopadhyaya , S. Sen, M.. M. Alam, and S. Chakrabarti | On site Coulomb repulsion dominates over the non-local Hartree-Fock exchange in determining the band gap of polymers | International Journal: Journal of Physics & Chemistry of Solids Accepted September 2013 <u>Journal Impact factor: 1.527</u> | <u>International Journal</u> | <u>Inter natio nal</u> | ISSN: 0022- 3697 | 1.527 | 2014 |
| 4 | Abhijit Biswas and Swagata Bhattacharjee | Temperature dependency of threshold voltage and subthreshold slope of strained –Si channel MOSFET's with polysilicon gates | vol. 54, page 1527-1533,2014 | Journal | Inter natio nal | ISBN: 0026- 2714 | 1.44 | 2014 |
| Sl. No. | Author (Including Co- | Title of the Paper | Detail of Paper (including Vol., | Nature of Paper (Journal/Conference/ | Natio nal/I | ISBN No/ISS | Journal Impact | Year of Publicati |

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| | author) | | Issue, Pg. No. | Book Chapter) | ntern ation al | N No. | factor/SC I Index No. | on |
|---|--|--|--------------------------------|--|-----------------------|--|-----------------------------|------|
| 5 | Swagata Bhattacharjee and Abhijit Biswas | Analog circuit performance of high ultrathin-body InAsSb-on- insulator MOSFETs | Proceeding of TechSymp 2014 | International conference | Inter natio nal | ISBN : 978- 4799- 2608- 4/14/20 14 IEEE | | 2014 |
| 6 | S.Singha Roy | Quantum Geometry of Fermi Energy Under Size Quantization in Indirect Band Gap Semiconductors | pp-36.2014 | International Conference Proceedings: Geometry and its applications, The Tensor Society &J.U,pp-36.2014 | | | | 2014 |
| 7 | S.Singha Roy | “Theoretic approach to the Fermi energy under size quantization with Quantum Mathematical Modelling in Nanomaterials” | PP-283-288. | International Conference Proceedings: Springer, Vol.7 ,PP- 283-288. | | | | 2014 |
| 8 | S.Singha Roy | A number of mathematical analysis of conduction band tail in heavily doped semiconductor, | PP-21 | International Conference Proceedings: Calcutta Mathematical Society, ICCDMMS- 2014, Dec 19-21, | | | | 2014 |
| 9 | S.Singha Roy | “ A Simple Statistical analysis of entropy ambitious denaturation of Deoxyribonucleic | pp.17, | International Conference Proceedings: | | | | 2014 |

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| | | | | | | | | |
|----|--------------|---|-------------|--|--|--|--|------|
| | | | | Biomathematical Society of India & J.U, pp.17, 2014 | | | | |
| 10 | S.Singha Roy | Quantum Geometry of Fermi Energy Under Size Quantization in Indirect Band Gap Semiconductors | pp-36.2014 | International Conference Proceedings: Geometry and its applications, The Tensor Society &J.U,pp-36.2014 | | | | 2014 |
| 11 | S.Singha Roy | “Theoretic approach to the Fermi energy under size quantization with Quantum Mathematical Modelling in Nanomaterials” | PP-283-288. | International Conference Proceedings: Springer, Vol.7 ,PP-283-288. | | | | 2014 |
| 12 | S.Singha Roy | A number of mathematical analysis of conduction band tail in heavily doped semiconductor, | PP-21 | International Conference Proceedings: Calcutta Mathematical Society, ICCDMMS-2014, Dec 19-21, | | | | 2014 |

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|---------|------------------------------|--|--|--|----------------------------|---------------------|--------------------------------------|----------------------|
| 1 | S. Sen and S. Chakrabarti | In silico design of a tunable molecular spin filter using chromium-carbon-chromium chains. | International Journal Chem. Phys. <u>Journal Impact factor: 1.957</u> Revised October 2013 Chemical Physics Man Id: CHEMPHYS-D-13-00413. | <u>International Journal</u> | <u>Inter national</u> | ISSN: 0301-0104 | <u>1.957</u> | 2013 |
| 2 | S.Singha Roy | The simple theoretical analysis of quantum well wires superlattice (QWSL) of communication technology | 8773,6 DoI:10.1117/12.2019051 | SPIE Proceedings, Photon Counting Applications IV; and Quantum Optics and Quantum Information Transfer and Processing | Inter national Conf erence | ISBN: 9780819495754 | | 2013 |
| 3 | S.Singha Roy | Theoretic Approach to the Fermi energy under size quantization with Quantum Mathematical Modelling in Nano-materials | Pp.30 | ICFMSA-2012 Bulletin of Calcutta Mathematical Society | Inter national Conf erence | 0008-0659 | | 2013 |
| Sl. No. | Author (Including Co- | Title of the Paper | Detail of Paper (including Vol., | Nature of Paper (Journal/Conference/ | Natio nal/I | ISBN No/ISSN | Journal Impact | Year of Publicati |

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|---|--|---|--|-----------------------------------|-------------------|------------------------|--------------------------------|------|
| 4 | S.Singha Roy and P.bandyopadhyaya | “Torsion and entropy driven denaturation of DNA” | Phs. Lett A.,377,2884- 2889, 2013. | International Journal: | | 2884- 2889 | | 2013 |
| 5 | Abhijit Biswas and Swagata Bhattacharjee | Accurate modeling of the influence of back gate bias and interface roughness on the threshold voltage of nanoscale DG MOSFETs | vol. 53, page 363-370 | Journal | Inter national | ISBN: 0026- 2714 | 1.14 | 2013 |

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|---------|--|---|---|--|--|---|--------------------------------------|----------------------|
| 1 | M.Chattopadhyaya , M.. M. Alam, S. Sen , and S. Chakrabarti | Electrostatic Spin Crossover and Concomitant Electrically Operated Spin Switch Action in a Ti-Based Endohedral Metallofullerene Polymer | International Journal: Physical Review Letters Phys. Rev. Lett. 109, 257204 (2012) <u>Journal Impact factor: 7.943</u> | <u>International Journal</u> | Internatio nal | ISSN 1079-7114 (online) 0031-9007 (print). | 7.943 | <u>2012</u> |
| 2 | M.Chattopadhyaya , S. Sen , M.. M. Alam, and S. Chakrabarti | The role of relativity and non-local exchange on the band gap of thiophene, selenophene and tellurophene oligomers | International Journal: THE JOURNAL OF CHEMICAL PHYSICS J. Chem. Phys.136, 094904 (2012). <u>Journal Impact factor: 3.164</u> | <u>International Journal</u> | Internatio nal | ISSN: 0021-9606 E- ISSN: 1089-7690 | | <u>2012</u> |
| 3 | S.Singha Roy | A Simple Theoretical analysis of quantum transport of 3-dimensional photoelectric effect | pp.1-3 DoI-10.1364 | IEEE PHOTONICS | Internatio nal | 987-1-4773-4718-1 | | 2012 |
| 4 | S.Singha Roy | Determiration of the density –of states function in highly | 8542H PP.8 DOI: | SPIE Electro-Optical Remote | Internatio nal | ISBN:87808194 | | 2012 |

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| | | | | | | | | |
|--|--|---|-----------------------|---------|--|-------|--|--|
| | | degenerate semiconductors in the existence of electric field strength | 10.1117/12.9705 44 | sensing | | 92838 | | |
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| 1 | S.Singha Roy | A simple theoretical analysis of the Einstein relation for the DMR (diffusivity-mobility ratio) in Nono compounds on the basis of k.p formalism | 8093, 22 | SPIE Nanomaterials | International | ISBN:978 08194870 32 | | 2011 |
| 2 | S.Singha Roy | The theoretical study of field emission from quantum wire SLs f | PP 1-4/ DOI: 10.1109/INE C.2011.5991 663 | IEEE INEC 2011 | International Conference | ISSN:215 9-3523/ E-ISBN 978-1- 4577- 0377-5 | | 2011 |
| 3 | S.Singha Roy | The simple theoretical analysis of the specific heat capacity in nano materials | Pp 1-4/DOI: 10.1109/INE C.2011.5991 778 | IEEE INEC 2011 | International Conference | ISSN: 2159- 3523 / E- ISBN: 978-1- 4577- 0379-9 | | 2011 |
| 4 | Swagata Bhattacharjee and Abhijit Biswas | A continuous drain current model for long Ge channel double gate (DG) p MOSFETs with high-k gate dielectrics and estimation of analog circuit parameters | vol- 51, page 1105-1112 | Journal | International | ISBN: 0026- 2714 | 1.14 | 2011 |
| 5 | Swagata Bhattacharjee and Abhijit Biswas | Effects of hot carriers on threshold voltage and subthreshold slope of MOS devices with different gate architectures | vol. 2 No 1, page 70 – 82 | Journal | International | ISSN: 0974- 9527 | | 2011 |

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