

Publication
Of
Physics Department

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LIST OF PAPERS PUBLISHED BY FACULTY MEMEBRS OF DEPARTMENT OF Physics

Publications duing the period July 2019 to June 2020		
Title of the paper	Author	Publication Details/Vol.No./ISSN No./Page
Transcription, torsional stress and the bending dynamics of DNA	Subhamoy Singha Roy	Phys Astron Int J. 2020;4(1):30–32
Quantum Entanglement and Magnetic Moment of Deuteron	Subhamoy Singha Roy	Journal of Advances in Applied Physics, Vol. 1, No. 1, November 2019 https://dx.doi.org/10.22606/jaap.2019.1100
Transcription of genetic information in the framework of quantum information theory	Subhamoy Singha Roy	Phys Astron Int J. 2019;3(4):137–144.
Topological Configuration in the Heisenberg Spin Sequence and DNA	Subhamoy Singha Roy	Mathematical Analysis and Applications in Modeling pp 197-207,DOI https://doi.org/10.1007/978-981-15-0422-8_18 , Springer, Singapore
Investigation on noise performance of InAs _x Sb _{1-x} MOSFETs with compositional variations	Dr. Swagata Bhattacharjee	Microsystem Technologies, vol 26, page 1133-1140, 2020
Analysis of low frequency noise for asymmetric underlap UTB SOI MOSFETs	Dr. Swagata Bhattacharjee	SSRN, 2020
Development of noise model for InAsSb MOSFETs and their application in low noise amplifiers	Dr. Swagata Bhattacharjee	Microsystem Technologies, vol 25, page 1555-1562, 2019

Noise performance of nanoscale InAs _x Sb _(1-x) MOSFETs for varying compositions	Dr. Swagata Bhattacharjee	MICRO 2019, ISBN: 81-85824-46-4.
Effects of composition fraction on subthreshold behavior of InAs _x Sb _(1-x) channel UTB MOSFETs	Dr. Swagata Bhattacharjee	IEEE explore DOI 10.1109/EDCT.2018.8405089
Impact of asymmetric underlap on the performance of dielectric modulated TFET biosensor” accepted in AMPHE 2020	Dr. Swagata Bhattacharjee	International conference on Advances in Medical Physics and Health Engineering AMPHE 2020 (accepted)
Technological challenges and Solutions to advanced Mosfets	Dr. Swagata Bhattacharjee	Electrical and Electronic Devices, Circuits and Materials: Design and Applications, Taylor & Francis (accepted)
Impact of scaling on thermal noise of In _x AsSb _{1-x} UTB MOSFETs in sub 100 nm regime	Dr. Swagata Bhattacharjee	FEMAS 2019, GNIT, held on 26th and 27th September, 2019, (ISBN No: 978-93-5391-015-0)

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1	Editors: Bhattacharyya, S., Sen, S., Dutta, M., Biswas, P., Chattopadhyay, H. (Eds.)	Industry Interactive Innovations in Science, Engineering and Technology Proceedings of the International Conference, I3SET 2016 Editors: Bhattacharyya, S., Sen, S., Dutta, M., Biswas, P., Chattopadhyay, H. (Eds.)	Springer Publication	Editor of a Book	International	ISBN 978-981-10-3953-9		
2	J Sabyasachi Sena*	Role of asymmetric magnetic electrodes in tuning spin selective rectification action of borazine [B ₃ N ₃ H ₆	Chem. Phys. Volume 491, Pages 126–135 Year: 2017	International Journal	International Journal	ISSN: 0301-0104	Journal Impact factor: 1.957	2017
3	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.	International	ISSN: 0277-786X	Journal Impact factor: 0.37	(2017);
4	S. Singha Roy,	DNA Molecule as a Spin System and the Symmetric Top Model	Theoretical Physics, Volume 2, Number 3, PP. 141-144	International Journal	International	ISSN:2519-9625	Impact factor: 0.895	2017
5	Swagata Bhattacharjee and Abhijit Biswas	Development of Noise model for InAsSb MOSFETs and their applications in low noise amplifiers	(available on line in Int. journal of Microsystems Technologies,	International Journal	International			

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			Springer)					
6	Swagata Bhattacharjee	Journal	Microsystem Technologies, Springer. July, 2017	International Journal				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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				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		
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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
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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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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 natio nal Conf erenc e	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 natio nal Conf erenc e	0008-0659		2013
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4	S.Singha Roy and P.bandyopadhy	“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: 0 021-9606 E- ISSN: 1 089-7690		<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:8 7808194		2012

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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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