

Supriyo Bandyopadhyay

List of Publications by Year in Descending Order

Source: <https://exaly.com/author-pdf/513923/supriyo-bandyopadhyay-publications-by-year.pdf>

Version: 2024-04-25

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

138
papers

2,219
citations

26
h-index

42
g-index

150
ext. papers

2,423
ext. citations

3.6
avg, IF

5.58
L-index

#	Paper	IF	Citations
138	Spin Wave Electromagnetic Nano-Antenna Enabled by Tripartite Phonon-Magnon-Photon Coupling.. <i>Advanced Science</i> , 2022 , e2104644	13.6	5
137	Reflection and Refraction of a Spin at the Edge of a Quasi-Two-Dimensional Semiconductor Layer (Quantum Well) and a Topological Insulator. <i>Magnetism</i> , 2022 , 2, 117-129		0
136	Applications of nanomagnets as dynamical systems: II. <i>Nanotechnology</i> , 2021 , 33,	3.4	2
135	Applications of nanomagnets as dynamical systems: I. <i>Nanotechnology</i> , 2021 , 33,	3.4	2
134	Reflection and refraction of an electron spin at the junction between two quasi-two-dimensional regions with and without spin-orbit interaction. <i>Physica Scripta</i> , 2021 , 96, 065806	2.6	1
133	Low Temperature Growth of Germanium Oxide Nanowires by Template Based Self Assembly and their Raman Characterization 2021 , 93-100		1
132	An observable effect of spin inertia in slow magneto-dynamics: increase of the switching error rates in nanoscale ferromagnets. <i>Journal of Physics Condensed Matter</i> , 2021 , 33,	1.8	5
131	The Cost of Energy-Efficiency in Digital Hardware: The Trade-Off between Energy Dissipation, Energy Delay Product and Reliability in Electronic, Magnetic and Optical Binary Switches. <i>Applied Sciences (Switzerland)</i> , 2021 , 11, 5590	2.6	4
130	Resonant amplification of intrinsic magnon modes and generation of new extrinsic modes in a two-dimensional array of interacting multiferroic nanomagnets by surface acoustic waves. <i>Nanoscale</i> , 2021 , 13, 10016-10023	7.7	7
129	Nanomagnetic Boolean Logic The Tempered (and Realistic) Vision. <i>IEEE Access</i> , 2021 , 9, 7743-7750	3.5	5
128	Surface acoustic wave induced modulation of tunneling magnetoresistance in magnetic tunnel junctions. <i>Journal of Applied Physics</i> , 2021 , 130, 033901	2.5	1
127	Magnetic straintronics: Manipulating the magnetization of magnetostrictive nanomagnets with strain for energy-efficient applications. <i>Applied Physics Reviews</i> , 2021 , 8, 041323	17.3	5
126	Extreme Subwavelength Magnetoelastic Electromagnetic Antenna Implemented with Multiferroic Nanomagnets. <i>Advanced Materials Technologies</i> , 2020 , 5, 2000316	6.8	11
125	Experimental Demonstration of an Extreme Subwavelength Nanomagnetic Acoustic Antenna Actuated by Spin Orbit Torque from a Heavy Metal Nanostrip. <i>Advanced Materials Technologies</i> , 2020 , 5, 1901076	6.8	7
124	Simulated annealing with surface acoustic wave in a dipole-coupled array of magnetostrictive nanomagnets for collective ground state computing. <i>Journal Physics D: Applied Physics</i> , 2020 , 53, 445002 ³		3
123	Bayesian reasoning machine on a magneto-tunneling junction network. <i>Nanotechnology</i> , 2020 , 31, 484001 ⁴	3.14	7
122	Effect of CoFe dusting layer and annealing on the magnetic properties of sputtered Ta/W/CoFeB/CoFe/MgO layer structures. <i>Journal Physics D: Applied Physics</i> , 2020 , 53, 105001	3	2

121	Sensitivity of the Power Spectra of Thermal Magnetization Fluctuations in Low Barrier Nanomagnets Proposed for Stochastic Computing to In-Plane Barrier Height Variations and Structural Defects. <i>Spin</i> , 2020 , 10, 2050001	1.3	6
120	A 3-D NanoMagnetoElectrokinetic model for ultra-high precision assembly of ferromagnetic NWs using magnetic-field assisted dielectrophoresis.. <i>RSC Advances</i> , 2020 , 10, 39763-39770	3.7	0
119	The Many Facets of Nanotechnology [Highlights]. <i>IEEE Nanotechnology Magazine</i> , 2020 , 14, 8-11	1.7	
118	Electrically programmable probabilistic bit anti-correlator on a nanomagnetic platform. <i>Scientific Reports</i> , 2020 , 10, 12361	4.9	8
117	Spin Transport in Nanowires Synthesized Using Anodic Nanoporous Alumina Films 2020 ,		1
116	Straintronics: Digital and Analog Electronics With Strain-Switched Nanomagnets. <i>IEEE Open Journal of Nanotechnology</i> , 2020 , 1, 57-64	2.1	9
115	Low Energy Barrier Nanomagnet Design for Binary Stochastic Neurons: Design Challenges for Real Nanomagnets With Fabrication Defects. <i>IEEE Magnetism Letters</i> , 2019 , 10, 1-5	1.6	18
114	Reliability of Magnetoelastic Switching of Nonideal Nanomagnets with Defects: A Case Study for the Viability of Straintronic Logic and Memory. <i>Physical Review Applied</i> , 2019 , 12,	4.3	16
113	Microwave Oscillator Based on a Single Straintronic Magnetotunneling Junction. <i>Physical Review Applied</i> , 2019 , 11,	4.3	10
112	Review: Voltage induced strain control of magnetization: computing and other applications. <i>Multifunctional Materials</i> , 2019 , 2, 032001	5.2	3
111	The effect of material defects on resonant spin wave modes in a nanomagnet. <i>Scientific Reports</i> , 2019 , 9, 16635	4.9	7
110	Mixed-mode Magnetic Tunnel Junction-based Deep Belief Network 2019 ,		3
109	Reliability and Scalability of p-Bits Implemented With Low Energy Barrier Nanomagnets. <i>IEEE Magnetism Letters</i> , 2019 , 10, 1-4	1.6	11
108	Low Power Restricted Boltzmann Machine Using Mixed-Mode Magneto-Tunneling Junctions. <i>IEEE Electron Device Letters</i> , 2019 , 40, 345-348	4.4	25
107	Energy-efficient switching of nanomagnets for computing: straintronics and other methodologies. <i>Nanotechnology</i> , 2018 , 29, 442001	3.4	15
106	Hybrid Magnetodynamical Modes in a Single Magnetostrictive Nanomagnet on a Piezoelectric Substrate Arising from Magnetoelastic Modulation of Precessional Dynamics. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 43970-43977	9.5	27
105	Spin-Based Devices for Logic, Memory, and Non-Boolean Architectures 2018 , 201-236		
104	Magneto-elastic switching of magnetostrictive nanomagnets with in-plane anisotropy: the effect of material defects. <i>Journal of Physics Condensed Matter</i> , 2018 , 30, 394001	1.8	11

103	Incoherent magnetization dynamics in strain mediated switching of magnetostrictive nanomagnets. <i>Nanotechnology</i> , 2017 , 28, 015202	3.4	8
102	Static and dynamic magnetic properties of sputtered Fe-Ga thin films. <i>IEEE Transactions on Magnetics</i> , 2017 , 53,	2	24
101	Skewed Straintronic Magnetotunneling-Junction-Based Ternary Content-Addressable Memory Part II. <i>IEEE Transactions on Electron Devices</i> , 2017 , 64, 2842-2848	2.9	6
100	Experimental Demonstration of Complete 180° Reversal of Magnetization in Isolated Co Nanomagnets on a PMN-PT Substrate with Voltage Generated Strain. <i>Nano Letters</i> , 2017 , 17, 3478-3484	11.5	68
99	Image Processing With Dipole-Coupled Nanomagnets: Noise Suppression and Edge Enhancement Detection. <i>IEEE Transactions on Electron Devices</i> , 2017 , 64, 2417-2424	2.9	20
98	Energy-Efficient Hybrid Spintronic Straintronic Nonvolatile Reconfigurable Equality Bit Comparator. <i>Spin</i> , 2017 , 07, 1750004	1.3	3
97	Precessional switching of a perpendicular anisotropy magneto-tunneling junction without a magnetic field. <i>Japanese Journal of Applied Physics</i> , 2017 , 56, 100309	1.4	10
96	Antimicrobial properties of nanorods: killing bacteria via impalement. <i>IET Nanobiotechnology</i> , 2017 , 11, 501-505	2	8
95	Skewed Straintronic Magnetotunneling-Junction-Based Ternary Content-Addressable Memory Part I. <i>IEEE Transactions on Electron Devices</i> , 2017 , 64, 2835-2841	2.9	12
94	Acoustic-Wave-Induced Magnetization Switching of Magnetostrictive Nanomagnets from Single-Domain to Nonvolatile Vortex States. <i>Nano Letters</i> , 2016 , 16, 5681-7	11.5	55
93	Experimental Clocking of Nanomagnets with Strain for Ultralow Power Boolean Logic. <i>Nano Letters</i> , 2016 , 16, 1069-75	11.5	94
92	General Principles of Spin Transistors and Spin Logic Devices 2016 , 1175-1242		
91	Giant voltage manipulation of MgO-based magnetic tunnel junctions via localized anisotropic strain: A potential pathway to ultra-energy-efficient memory technology. <i>Applied Physics Letters</i> , 2016 , 109, 092403	3.4	61
90	Dynamic Error in Strain-Induced Magnetization Reversal of Nanomagnets Due to Incoherent Switching and Formation of Metastable States: A Size-Dependent Study. <i>IEEE Transactions on Electron Devices</i> , 2016 , 63, 3307-3313	2.9	20
89	Experimental demonstration of acoustic wave induced magnetization switching in dipole coupled magnetostrictive nanomagnets for ultralow power computing. <i>Applied Physics Letters</i> , 2016 , 109, 102403	3.4	20
88	Introduction to Spintronic and Nanomagnetic Computing Devices 2016 , 1-8		1
87	Spin Transfer Torque: A Multiscale Picture 2016 , 91-132		4
86	Magnonic Logic Devices 2016 , 189-219		1

85	Hybrid Spintronics-Straintronics 2016 , 259-289		1
84	Strain Mediated Magnetoelectric Memory 2016 , 221-257		9
83	Modulating spin relaxation in nanowires with infrared light at room temperature. <i>Nanotechnology</i> , 2015 , 26, 281001	3.4	2
82	The straintronic spin-neuron. <i>Nanotechnology</i> , 2015 , 26, 285201	3.4	26
81	Self-Similar Magneto-Electric Nanocircuit Technology for Probabilistic Inference Engines. <i>IEEE Nanotechnology Magazine</i> , 2015 , 14, 980-991	2.6	27
80	. <i>IEEE Transactions on Electron Devices</i> , 2015 , 62, 2978-2986	2.9	14
79	Physically equivalent magneto-electric nanoarchitecture for probabilistic reasoning 2015 ,		5
78	. <i>IEEE Nanotechnology Magazine</i> , 2015 , 14, 196-197	2.6	
77	Reducing error rates in straintronic multiferroic nanomagnetic logic by pulse shaping. <i>Nanotechnology</i> , 2015 , 26, 245202	3.4	22
76	Architecting for Causal Intelligence at Nanoscale. <i>Computer</i> , 2015 , 48, 54-64	1.6	22
75	Magnetotunneling Junction Logic and Memory: Low-energy logic paradigms for the next decade and beyond.. <i>IEEE Nanotechnology Magazine</i> , 2015 , 9, 6-12	1.7	
74	Electric field control of magnetic states in isolated and dipole-coupled FeGa nanomagnets delineated on a PMN-PT substrate. <i>Nanotechnology</i> , 2015 , 26, 401001	3.4	27
73	Reversible strain-induced magnetization switching in FeGa nanomagnets: Pathway to a rewritable, non-volatile, non-toggle, extremely low energy straintronic memory. <i>Scientific Reports</i> , 2015 , 5, 18264	4.9	50
72	An error-resilient non-volatile magneto-elastic universal logic gate with ultralow energy-delay product. <i>Scientific Reports</i> , 2014 , 4, 7553	4.9	24
71	Coherent spin transport and suppression of spin relaxation in InSb nanowires with single subband occupancy at room temperature. <i>Small</i> , 2014 , 10, 4379-85	11	10
70	Reply to Comment on Metastable state in a shape-anisotropic single-domain nanomagnet subjected to spin-transfer torque [Appl. Phys. Lett. 105, 116101 (2014)]. <i>Applied Physics Letters</i> , 2014 , 105, 116103	3.4	
69	Complete magnetization reversal in a magnetostrictive nanomagnet with voltage-generated stress: A reliable energy-efficient non-volatile magneto-elastic memory. <i>Applied Physics Letters</i> , 2014 , 105, 072408	3.4	56
68	Energy-efficient magnetoelastic non-volatile memory. <i>Applied Physics Letters</i> , 2014 , 104, 232403	3.4	43

67	Comment on Ultra-low-energy non-volatile straintronic computing using single multiferroic composites [Appl. Phys. Lett. 103, 173110 (2013)]. <i>Applied Physics Letters</i> , 2014 , 105, 176101	3-4	2
66	General Principles of Spin Transistors and Spin Logic Devices 2013 , 1-57		
65	Binary switching in a 'symmetric' potential landscape. <i>Scientific Reports</i> , 2013 , 3, 3038	4-9	63
64	Acoustically assisted spin-transfer-torque switching of nanomagnets: An energy-efficient hybrid writing scheme for non-volatile memory. <i>Applied Physics Letters</i> , 2013 , 103, 232401	3-4	34
63	Switching of Dipole Coupled Multiferroic Nanomagnets in the Presence of Thermal Noise: Reliability of Nanomagnetic Logic. <i>IEEE Nanotechnology Magazine</i> , 2013 , 12, 1206-1212	2.6	32
62	Energy dissipation and error probability in fault-tolerant binary switching. <i>Scientific Reports</i> , 2013 , 3, 3204	4-9	15
61	Emerging Devices 2013 , 59-68		
60	Hybrid Spintronics/Straintronics: A Super Energy-Efficient Computing Paradigm Based on Interacting Multiferroic Nanomagnets 2013 ,		1
59	An Ultrafast Image Recovery and Recognition System Implemented With Nanomagnets Possessing Biaxial Magnetocrystalline Anisotropy. <i>IEEE Nanotechnology Magazine</i> , 2012 , 11, 896-901	2.6	15
58	Energy-Efficient Bennett Clocking Scheme for Four-State Multiferroic Logic. <i>IEEE Nanotechnology Magazine</i> , 2012 , 11, 418-425	2.6	14
57	Hybrid straintronics and spintronics: An ultra energy-efficient paradigm for logic and memory 2012 ,		2
56	Hybrid spintronic/straintronics: A super energy efficient computing scheme based on interacting multiferroic nanomagnets 2012 ,		5
55	A self-assembled room temperature nanowire infrared photodetector based on quantum mechanical wavefunction engineering. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2012 , 44, 1478-1485	3	6
54	Quantum Devices and Mesoscopic Phenomena 2012 , 491-546		
53	Charge and Current in Solids: The Classical Drift-Diffusion Model 2012 , 1-33		1
52	Quantum Transport Formalisms 2012 , 395-490		
51	Boltzmann Transport: Beyond the Drift-Diffusion Model 2012 , 35-90		
50	Some Essential Elements of Quantum Mechanics 2012 , 91-145		

49	Band Structures of Crystalline Solids 2012 , 147-207		
48	Carrier Scattering in Solids 2012 , 209-255		
47	Optical Properties of Solids 2012 , 257-340		
46	Magnetic Field Effects in a Nanostructured Device 2012 , 341-394		
45	Metastable state in a shape-anisotropic single-domain nanomagnet subjected to spin-transfer-torque. <i>Applied Physics Letters</i> , 2012 , 101, 162405	3-4	14
44	Magnetization dynamics, throughput and energy dissipation in a universal multiferroic nanomagnetic logic gate with fan-in and fan-out. <i>Nanotechnology</i> , 2012 , 23, 105201	3-4	54
43	Spin dynamics and spin noise in the presence of randomly varying spin-orbit interaction in a semiconductor quantum wire. <i>Journal of Physics Condensed Matter</i> , 2012 , 24, 215302	1.8	3
42	Energy dissipation and switching delay in stress-induced switching of multiferroic nanomagnets in the presence of thermal fluctuations. <i>Journal of Applied Physics</i> , 2012 , 112, 023914	2.5	103
41	Information Processing with Electron Spins. <i>ISRN Materials Science</i> , 2012 , 2012, 1-20		0
40	Hybrid spintronics and straintronics: A magnetic technology for ultra low energy computing and signal processing. <i>Applied Physics Letters</i> , 2011 , 99, 063108	3-4	174
39	Switching dynamics of a magnetostrictive single-domain nanomagnet subjected to stress. <i>Physical Review B</i> , 2011 , 83,	3-3	67
38	Wetting behavior of polymer coated nanoporous anodic alumina films: transition from super-hydrophilicity to super-hydrophobicity. <i>Nanotechnology</i> , 2011 , 22, 035703	3-4	33
37	Magnetization dynamics, Bennett clocking and associated energy dissipation in multiferroic logic. <i>Nanotechnology</i> , 2011 , 22, 309501	3-4	10
36	Four-state nanomagnetic logic using multiferroics. <i>Journal Physics D: Applied Physics</i> , 2011 , 44, 265001	3	36
35	Signature of quasi one-dimensionality in the absorption spectra of electrochemically self-assembled nanowires. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2011 , 43, 1255-1261	3	5
34	Motional modes in bulk powder and few-molecule clusters of tris(8-hydroxyquinoline aluminum) and their relation to spin dephasing. <i>Applied Physics Letters</i> , 2011 , 98, 063109	3-4	1
33	Magnetization dynamics, Bennett clocking and associated energy dissipation in multiferroic logic. <i>Nanotechnology</i> , 2011 , 22, 155201	3-4	78
32	Dominant spin relaxation mechanism in compound organic semiconductors. <i>Physical Review B</i> , 2010 , 81,	3-3	23

31	Nearly Universal $1/f^2$ Spectrum of Mobility Fluctuation Noise in a Quantum Wire at Radio and Microwave Frequencies. <i>IEEE Transactions on Electron Devices</i> , 2010 , 57, 3101-3105	2.9	1
30	Analysis of the two-dimensional Datta-Das spin field effect transistor. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2010 , 42, 1736-1740	3	22
29	Spin Relaxation Mechanisms in the Organic Semiconductor Alq3. <i>International Journal of Nanotechnology and Molecular Computation</i> , 2009 , 1, 20-38		1
28	An electron's spin---Part I. <i>IEEE Potentials</i> , 2009 , 28, 31-35	1	5
27	Electron spin for classical information processing: a brief survey of spin-based logic devices, gates and circuits. <i>Nanotechnology</i> , 2009 , 20, 412001	3-4	79
26	Phonon Bottleneck Effect in Organic Molecules. <i>Materials Research Society Symposia Proceedings</i> , 2009 , 1172, 19		
25	Gate control of the spin-splitting energy in a quantum dot: Application in single qubit rotation. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2009 , 41, 587-592	3	5
24	An electron's spin--Part II. <i>IEEE Potentials</i> , 2009 , 28, 36-39	1	3
23	Spin Injection Efficiency at the Source/Channel Interface of Spin Transistors. <i>IEEE Nanotechnology Magazine</i> , 2008 , 7, 34-39	2.6	3
22	Self-Assembled Nanowire Arrays of Metal/Insulator/Semiconductor Diodes Exhibiting S-Type Nonlinearity. <i>IEEE Nanotechnology Magazine</i> , 2008 , 7, 800-805	2.6	
21	Fluorescence spectroscopy of electrochemically self-assembled ZnSe and Mn:ZnSe nanowires. <i>Nanotechnology</i> , 2008 , 19, 195601	3-4	14
20	The inequality of charge and spin diffusion coefficients. <i>Journal of Applied Physics</i> , 2008 , 104, 014304	2.5	6
19	Oscillatory magnetoresistance in a quantum wire spin valve: A means to estimate the saturated drift velocity or mobility of carriers. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2008 , 40, 2814-2816	3	
18	Energy dispersion relations of spin-split subbands in a quantum wire and electrostatic modulation of carrier spin polarization. <i>Physical Review B</i> , 2007 , 76,	3-3	17
17	Power Dissipation in Spintronic Devices: A General Perspective. <i>Journal of Nanoscience and Nanotechnology</i> , 2007 , 7, 3689-3689	1-3	13
16	Power dissipation in spintronic devices: a general perspective. <i>Journal of Nanoscience and Nanotechnology</i> , 2007 , 7, 168-80	1-3	1
15	Spin relaxation of upstream electrons in quantum wires: Failure of the drift diffusion model. <i>Physical Review B</i> , 2006 , 73,	3-3	5
14	Normal and inverse spin-valve effect in organic semiconductor nanowires and the background monotonic magnetoresistance. <i>Physical Review B</i> , 2006 , 74,	3-3	33

13	Spin transport in self assembled all-metal nanowire spin valves: a study of the pure Elliott-Yafet mechanism. <i>Journal of Nanoscience and Nanotechnology</i> , 2006 , 6, 1973-8	1.3	2
12	Fluorescence and infrared spectroscopy of electrochemically self assembled ZnO nanowires: evidence of the quantum confined Stark effect. <i>Journal of Materials Science: Materials in Electronics</i> , 2006 , 17, 651-655	2.1	27
11	Electrochemically self-assembled nanostructure arrays. <i>Journal of Crystal Growth</i> , 2004 , 268, 342-345	1.6	4
10	Single-spin measurement in the solid state: A reader for a spin qubit. <i>Physical Review B</i> , 2003 , 67,	3.3	6
9	Rashba effect in an asymmetric quantum dot in a magnetic field. <i>Superlattices and Microstructures</i> , 2002 , 32, 171-177	2.8	8
8	Computational Paradigms in Nanoelectronics: Quantum Coupled Single Electron Logic and Neuromorphic Networks. <i>Japanese Journal of Applied Physics</i> , 1996 , 35, 3350-3362	1.4	41
7	Semiconductor Quantum Devices. <i>Advances in Electronics and Electron Physics</i> , 1994 , 93-253		7
6	Modulated interfacial disorder scattering in quantum wells and its device applications. <i>Surface and Interface Analysis</i> , 1989 , 14, 590-594	1.5	2
5	Fluctuations in the optical spectra of disordered microstructures due to quantum-interference effects. <i>Physical Review B</i> , 1988 , 38, 7466-7473	3.3	4
4	Introduction to Spintronics		104
3	Introduction to Spintronics		21
2	Dominant Spin Relaxation Mechanisms in Organic Semiconductor Alq3259-278		
1	Monolithic and Hybrid Spintronics93		