

Manoharan Muruganathan

List of Publications by Year in descending order

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80
papers

1,049
citations

516215

16
h-index

476904

29
g-index

80
all docs

80
docs citations

80
times ranked

1485
citing authors

#	ARTICLE	IF	CITATIONS
1	Room temperature detection of individual molecular physisorption using suspended bilayer graphene. Science Advances, 2016, 2, e1501518.	4.7	127
2	Highly Reproducible and Regulated Conductance Quantization in a Polymer-Based Atomic Switch. Advanced Functional Materials, 2017, 27, 1605104.	7.8	66
3	Large-scale nanoelectromechanical switches based on directly deposited nanocrystalline graphene on insulating substrates. Nanoscale, 2016, 8, 6659-6665.	2.8	58
4	Enhanced Sodium Ion Storage in Interlayer Expanded Multiwall Carbon Nanotubes. Nano Letters, 2018, 18, 5688-5696.	4.5	57
5	Electrically Tunable van der Waals Interaction in Graphene-Molecule Complex. Nano Letters, 2015, 15, 8176-8180.	4.5	53
6	Sub-10Ånm graphene nano-ribbon tunnel field-effect transistor. Carbon, 2018, 126, 588-593.	5.4	46
7	Low pull-in voltage graphene electromechanical switch fabricated with a polymer sacrificial spacer. Applied Physics Letters, 2014, 105, .	1.5	45
8	Lateral plasma etching enhanced on/off ratio in graphene nanoribbon field-effect transistor. Applied Physics Letters, 2015, 106, .	1.5	44
9	Structurally Controlled Large-Area 10 nm Pitch Graphene Nanomesh by Focused Helium Ion Beam Milling. ACS Applied Materials & Interfaces, 2018, 10, 10362-10368.	4.0	33
10	Single-electron quantization at room temperature in a-few-donor quantum dot in silicon nano-transistors. Applied Physics Letters, 2017, 110, .	1.5	22
11	Point defect-induced transport bandgap widening in the downscaled armchair graphene nanoribbon device. Carbon, 2013, 64, 416-423.	5.4	21
12	Locally-Actuated Graphene-Based Nano-Electro-Mechanical Switch. Micromachines, 2016, 7, 124.	1.4	19
13	Silicon-on-Insulator-Based Radio Frequency Single-Electron Transistors Operating at Temperatures above 4.2 K. Nano Letters, 2008, 8, 4648-4652.	4.5	18
14	Partial hydrogenation induced interaction in a graphene-SiO ₂ interface: irreversible modulation of device characteristics. Nanoscale, 2017, 9, 1662-1669.	2.8	18
15	Sharp switching behaviour in graphene nanoribbon p-n junction. Carbon, 2017, 121, 399-407.	5.4	17
16	Quantized conductance operation near a single-atom point contact in a polymer-based atomic switch. Japanese Journal of Applied Physics, 2017, 56, 06GF02.	0.8	17
17	Fabrication of a three-terminal graphene nanoelectromechanical switch using two-dimensional materials. Nanoscale, 2018, 10, 12349-12355.	2.8	17
18	Hydrogen intercalation: An approach to eliminate silicon dioxide substrate doping to graphene. Applied Physics Express, 2015, 8, 015101.	1.1	16

#	ARTICLE	IF	CITATIONS
19	Chemical Simultaneous Synthesis Strategy of Two Nitrogen-Rich Carbon Nanomaterials for All-Solid-State Symmetric Supercapacitor. ACS Omega, 2018, 3, 17276-17286.	1.6	16
20	3D Finite Element Simulation of Graphene Nano-Electro-Mechanical Switches. Micromachines, 2016, 7, 143.	1.4	15
21	Three-Dimensional Finite Element Method Simulation of Perforated Graphene Nano-Electro-Mechanical (NEM) Switches. Micromachines, 2017, 8, 236.	1.4	15
22	Atomistic nature in band-to-band tunneling in two-dimensional silicon pn tunnel diodes. Applied Physics Letters, 2016, 108, .	1.5	14
23	Dielectricâ€œScreening Reductionâ€œInduced Large Transport Gap in Suspended Subâ€œ10 nm Graphene Nanoribbon Functional Devices. Small, 2019, 15, 1903025.	5.2	14
24	Precise milling of nano-gap chains in graphene with a focused helium ion beam. Nanotechnology, 2016, 27, 325302.	1.3	13
25	RF Sputtered Nb-Doped MoS ₂ Thin Film for Effective Detection of NO ₂ Gas Molecules: Theoretical and Experimental Studies. ACS Omega, 2022, 7, 10492-10501.	1.6	13
26	Study of dynamic contacts for graphene nano-electromechanical switches. Japanese Journal of Applied Physics, 2017, 56, 04CK05.	0.8	12
27	Manipulating Berry curvature in hBN/bilayer graphene commensurate heterostructures. Physical Review B, 2020, 101, .	1.1	12
28	Graphene Nanomechanical Resonator Mass Sensing of Mixed H ₂ /Ar Gas. International Journal of Automation Technology, 2018, 12, 24-28.	0.5	12
29	Tunneling in Systems of Coupled Dopant-Atoms in Silicon Nano-devices. Nanoscale Research Letters, 2015, 10, 372.	3.1	11
30	Comparison of piezoelectric energy harvesting performance using silicon and graphene cantilever beam. Microsystem Technologies, 2018, 24, 3783-3789.	1.2	11
31	Origin of nonlinear current-voltage curves for suspended zigzag edge graphene nanoribbons. Carbon, 2020, 165, 476-483.	5.4	11
32	Quantum Dot Formation in Controllably Doped Graphene Nanoribbon. ACS Nano, 2019, 13, 7502-7507.	7.3	10
33	Design of Graphene Phononic Crystals for Heat Phonon Engineering. Micromachines, 2020, 11, 655.	1.4	9
34	Adsorbed Molecules as Interchangeable Dopants and Scatterers with a Van der Waals Bonding Memory in Graphene Sensors. ACS Sensors, 2020, 5, 2003-2009.	4.0	9
35	Impact of channel constrictions on the formation of multiple tunnel junctions in heavily doped silicon single electron transistors. Applied Physics Letters, 2008, 93, 112107.	1.5	8
36	Stress analysis of perforated graphene nano-electro-mechanical (NEM) contact switches by 3D finite element simulation. Microsystem Technologies, 2018, 24, 1179-1187.	1.2	8

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37	Interfacial Ammonia Selectivity, Atmospheric Passivation, and Molecular Identification in Graphene-Nanopored Activated Carbon Molecular-Sieve Gas Sensors. ACS Applied Materials & Interfaces, 2021, 13, 61770-61779.	4.0	8
38	Impact of Key Circuit Parameters on Signal-to-Noise Ratio Characteristics for the Radio Frequency Single-Electron Transistors. IEEE Nanotechnology Magazine, 2008, 7, 266-272.	1.1	7
39	Theoretical Insights into the Experimental Observation of Stable p-Type Conductivity and Ferromagnetic Ordering in Vacuum-Hydrogenated TiO ₂ . Journal of Physical Chemistry C, 2017, 121, 14359-14366.	1.5	7
40	Zeptogram Level Mass Sensing of Light Weight Gas Molecules Using Graphene Nanomechanical (GNEM) Resonator. , 2018, , .		7
41	Modulation of twisted bilayer CVD graphene interlayer resistivity by an order of magnitude based on in-situ annealing. Carbon, 2019, 153, 355-363.	5.4	7
42	Defect induced magnetism in monolayer HfSe ₂ : An ab initio study. Applied Surface Science, 2019, 491, 517-525.	3.1	7
43	Single-charge band-to-band tunneling via multiple-dopant clusters in nanoscale Si Esaki diodes. Applied Physics Letters, 2019, 114, .	1.5	7
44	Development of Morphologically engineered Flower-like Hafnium-Doped ZnO with Experimental and DFT Validation for Low-Temperature and Ultrasensitive Detection of NO _x Gas. Industrial & Engineering Chemistry Research, 2022, 61, 5885-5897.	1.8	7
45	Controlled fabrication of electrically contacted carbon nanoscrolls. Nanotechnology, 2018, 29, 235605.	1.3	6
46	Conductance Tunable Suspended Graphene Nanomesh by Helium Ion Beam Milling. Micromachines, 2020, 11, 387.	1.4	6
47	Room-temperature negative magnetoresistance of helium-ion-irradiated defective graphene in the strong Anderson localization regime. Carbon, 2021, 175, 87-92.	5.4	6
48	Carbon molecular sieve-functionalized graphene sensors for highly sensitive detection of ethanol. Carbon, 2022, 190, 359-365.	5.4	6
49	Interaction study of nitrogen ion beam with silicon. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2017, 35, 03D101.	0.6	5
50	Electrically controlled valley states in bilayer graphene. Nanoscale, 2019, 11, 14707-14711.	2.8	5
51	Thermoelectric properties of half Heusler topological semi-metal LiAuTe. Europhysics Letters, 2020, 132, 67003.	0.7	5
52	Recent progress of graphene-based nanoelectronic devices and NEMS for challenging applications. , 2016, , .		4
53	Electrically tunable localized states in sub-band of bilayer graphene nanoribbon. Applied Physics Letters, 2018, 113, .	1.5	4
54	Stacking of nanocrystalline graphene for nano-electro-mechanical (NEM) actuator applications. Microsystem Technologies, 2019, 25, 3083-3089.	1.2	4

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55	Revisiting the Mechanism of Electric Field Sensing in Graphene Devices. ACS Omega, 2021, 6, 34086-34091.	1.6	4
56	First-principles calculation of a negatively charged boron-vacancy center in diamond. Japanese Journal of Applied Physics, 2017, 56, 04CK02.	0.8	3
57	Thermoelectric Properties and Carrier Localization in Ultrathin Layer of Nb-Doped MoS ₂ . Physica Status Solidi (B): Basic Research, 2018, 255, 1800125.	0.7	3
58	Piezoelectric energy harvester enhancement with graphene base layer. Materials Today: Proceedings, 2019, 7, 792-797.	0.9	3
59	Boron vacancy color center in diamond: Ab initio study. Diamond and Related Materials, 2021, 114, 108341.	1.8	3
60	Strain effect on topological and thermoelectric properties of half Heusler compounds XPtS (X = Sr, Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	0.7	3
61	Thermal rectification on asymmetric suspended graphene nanomesh devices. Nano Futures, 2021, 5, 045002.	1.0	3
62	Double quantum dot-like transport in controllably doped graphene nanoribbon. Applied Physics Letters, 2021, 118, .	1.5	2
63	In-situ electrical conductance measurement of suspended ultra-narrow graphene nanoribbons observed via transmission electron microscopy. Nanotechnology, 2021, 32, 025710.	1.3	2
64	Novel suspended graphene devices for extreme sensing. , 2016, , .		1
65	A Statistical Study on the formation of a-few-dopant quantum dots in highly-doped Si nanowire transistors. , 2017, , .		1
66	Formation of quantum dot in graphene single nanoconstriction. Applied Physics Express, 2019, 12, 025004.	1.1	1
67	Sub-thermal switching of ultra-narrow graphene nanoribbon tunnel field effect transistors. Superlattices and Microstructures, 2019, 128, 76-82.	1.4	1
68	Half-meshed and fully-meshed suspended graphene for transport gap engineering. , 2020, , .		1
69	Quantum dot formation on suspended graphene nanomesh by helium ion beam milling technology. , 2021, , .		1
70	Inter-band Current Enhancement by Dopant-Atoms in Low-Dimensional pn Tunnel Diodes. Advances in Intelligent Systems and Computing, 2017, , 95-101.	0.5	1
71	Current effect on suspended graphene nanoribbon studied using in-situ transmission electron microscopy. Applied Surface Science, 2022, 573, 151563.	3.1	1
72	Fabrication and ab initio study of downscaled graphene nanoelectronic devices. , 2012, , .		0

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73	Downscaled graphene nanodevices: Helium ion beam based nanofabrication, graphene single-carrier transistors (GSCTs) and nano-electro-mechanical (GNEM) switches. , 2014, , .		0
74	Detection of individual CO2 molecules adsorption with suspended graphene in an electrical field. , 2015, , .		0
75	Sub 0.5 V bias voltage operation of a triple-topgate graphene tunnel field effect transistor. , 2017, , .		0
76	Physisorption doping induced multiple dots behavior in graphene nanoconstrictions. , 2017, , .		0
77	Co-dopants induced tunnel-current enhancement and their interaction in silicon nano tunnel diode. , 2017, , .		0
78	Finite element method simulation of graphene phononic crystals with cross-shaped nanopores. , 2019, , .		0
79	Nanoscale Graphene-Based Environmental Gas Sensing. , 2019, , 167-185.		0
80	Topological phase transition associated with structural phase transition in ternary half Heusler compound LiAuBi. Journal of Physics Condensed Matter, 2022, 34, 145501.	0.7	0