

Mahdi Pourfath

List of Publications by Year in Descending Order

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

105
papers

1,527
citations

20
h-index

35
g-index

124
ext. papers

1,823
ext. citations

2.9
avg, IF

4.95
L-index

#	Paper	IF	Citations
105	First principles study on structural, electronic and optical properties of HfSSe and ZrSSe ternary alloys.. <i>RSC Advances</i> , 2022 , 12, 14061-14068	3.7	0
104	Use of licorice plant extract for controlling corrosion of steel rebar in chloride-polluted concrete pore solution. <i>Journal of Molecular Liquids</i> , 2021 , 346, 117856	6	2
103	Ab Initio Analysis of Periodic Self-Assembly Phases of Borophene as Anode Material for Na-Ion Batteries. <i>Journal of Physical Chemistry C</i> , 2021 , 125, 5436-5446	3.8	3
102	Charge-Induced Two-Step Structural Phase Transition in the MoTe ₂ /WSe ₂ Hetero-Bilayer. <i>Journal of Physical Chemistry C</i> , 2021 , 125, 15000-15011	3.8	
101	Tunable natural terahertz and mid-infrared hyperbolic plasmons in carbon phosphide. <i>Carbon</i> , 2021 , 178, 625-631	10.4	0
100	Anisotropic electronic and plasmonic properties of 2H-TiS ₂ . <i>Journal Physics D: Applied Physics</i> , 2021 , 54, 195304	3	0
99	Using plant extracts to modify Al electrochemical behavior under corroding and functioning conditions in the air battery with alkaline-ethylene glycol electrolyte. <i>Journal of Industrial and Engineering Chemistry</i> , 2021 , 102, 327-342	6.3	1
98	Proposing high-affinity inhibitors from Glycyrrhiza glabra L. against SARS-CoV-2 infection: virtual screening and computational analysis. <i>New Journal of Chemistry</i> , 2021 , 45, 15977-15995	3.6	5
97	Dielectrophoretic borophene tweezer: Sub-10 mV nano-particle trapping. <i>Applied Surface Science</i> , 2020 , 527, 146859	6.7	3
96	Semiconducting Phase and Anisotropic Properties in Borophene via Chemical Surface Functionalization. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 5807-5816	3.8	3
95	Hydrogenated graphene oxide (H-G-SiO ₂) Janus structure: experimental and computational study of strong piezo-electricity response. <i>Journal Physics D: Applied Physics</i> , 2020 , 53, 175303	3	1
94	Ferroelectricity and phase transitions in InSe van der Waals material. <i>Nanoscale</i> , 2020 , 12, 22688-22697	7.7	8
93	Electronic Transport Properties of Silicane Determined from First Principles. <i>Materials</i> , 2019 , 12,	3.5	11
92	Electronic transport in graphene nanoribbons with correlated line-edge roughness. <i>Journal Physics D: Applied Physics</i> , 2019 , 52, 375102	3	1
91	Current induced forces in graphene nanoribbons. <i>Journal of Applied Physics</i> , 2019 , 125, 144503	2.5	1
90	Separated and intermixed phases of borophene as anode material for lithium-Ion batteries. <i>Journal Physics D: Applied Physics</i> , 2019 , 52, 245501	3	9
89	An MoS ₂ -Based Piezoelectric FET: A Computational Study of Material Properties and Device Design. <i>IEEE Transactions on Electron Devices</i> , 2019 , 66, 1997-2003	2.9	4

88	Low-Frequency Model for Hand-Calculations in Circuit Design With TMDC-Based Transistors. <i>IEEE Transactions on Electron Devices</i> , 2019 , 66, 5011-5018	2.9	1
87	Titanium Carbide MXene as NH ₃ Sensor: Realistic First-Principles Study. <i>Journal of Physical Chemistry C</i> , 2019 , 123, 29794-29803	3.8	31
86	First-principles Study of the Electron and Hole Mobility in Silicane 2019 ,		1
85	Ab initio effective deformation potentials of phosphorene and consistency checks. <i>Journal of Physics Condensed Matter</i> , 2018 , 30, 225701	1.8	5
84	An implementation of spin-orbit coupling for band structure calculations with Gaussian basis sets: Two-dimensional topological crystals of Sb and Bi. <i>Beilstein Journal of Nanotechnology</i> , 2018 , 9, 1015-1023	2.3	7
83	Magnetic graphene/Ni-nano-crystal hybrid for small field magnetoresistive effect synthesized via electrochemical exfoliation/deposition technique. <i>Journal of Materials Science: Materials in Electronics</i> , 2018 , 29, 4171-4178	2.1	12
82	Impact of Different Ratios of Fluorine, Oxygen, and Hydroxyl Surface Terminations on Ti ₃ C ₂ T _x MXene as Ammonia Sensor: A First-Principles Study 2018 ,		8
81	Adsorption characteristics of epigenetically modified DNA nucleobases on single-layer MoS ₂ : A first-principles study. <i>Journal of Applied Physics</i> , 2018 , 124, 134501	2.5	11
80	Simple One-Step Fabrication of Semiconductive Lateral Heterostructures Using Bipolar Electrodeposition. <i>Physica Status Solidi - Rapid Research Letters</i> , 2018 , 12, 1800418	2.5	11
79	Spin FET Based on Graphene Nanoribbon in the Presence of Surface Roughness. <i>IEEE Transactions on Electron Devices</i> , 2017 , 64, 3437-3442	2.9	
78	Enhanced spin-flip scattering by surface roughness in WS ₂ and MoS ₂ armchair nanoribbons. <i>Physical Review B</i> , 2017 , 95,	3.3	7
77	Modeling of a Vertical Tunneling Transistor Based on Graphene/MoS ₂ Heterostructure. <i>IEEE Transactions on Electron Devices</i> , 2017 , 64, 3459-3465	2.9	8
76	A computational study of vertical tunneling transistors based on graphene-WS ₂ heterostructure. <i>Journal of Applied Physics</i> , 2017 , 121, 214503	2.5	9
75	Highly anisotropic thermal conductivity of arsenene: An ab initio study. <i>Physical Review B</i> , 2016 , 93,	3.3	93
74	Aggregation Kinetics and Stability Mechanisms of Pristine and Oxidized Nanocarbons in Polar Solvents. <i>Journal of Physical Chemistry C</i> , 2016 , 120, 16804-16814	3.8	11
73	The effect of oxide shell thickness on the structural, electronic, and optical properties of Si-SiO ₂ core-shell nano-crystals: A (time dependent) density functional theory study. <i>Journal of Applied Physics</i> , 2016 , 119, 144302	2.5	5
72	Spin relaxation in graphene nanoribbons in the presence of substrate surface roughness. <i>Journal of Applied Physics</i> , 2016 , 120, 053904	2.5	6
71	The Fragility of Thermoelectric Power Factor in Cross-Plane Superlattices in the Presence of Nonidealities: A Quantum Transport Simulation Approach. <i>Journal of Electronic Materials</i> , 2016 , 45, 1584-1588	1.9	19

70	Numerical Study of Graphene Superlattice-Based Photodetectors. <i>IEEE Transactions on Electron Devices</i> , 2015 , 62, 593-600	2.9	11
69	Vertical Tunneling Graphene Heterostructure-Based Transistor for Pressure Sensing. <i>IEEE Electron Device Letters</i> , 2015 , 36, 280-282	4.4	6
68	Low-dimensional phonon transport effects in ultranarrow disordered graphene nanoribbons. <i>Physical Review B</i> , 2015 , 91,	3.3	21
67	Flexible phototransistors based on graphene nanoribbon decorated with MoS ₂ nanoparticles. <i>Sensors and Actuators A: Physical</i> , 2015 , 232, 285-291	3.9	16
66	A Comprehensive Study of Transistors Based on Conductive Polymer Matrix Composites. <i>IEEE Transactions on Electron Devices</i> , 2015 , 62, 1584-1589	2.9	5
65	Strain induced mobility modulation in single-layer MoS ₂ . <i>Journal Physics D: Applied Physics</i> , 2015 , 48, 375104	3	31
64	. <i>IEEE Transactions on Electron Devices</i> , 2015 , 62, 3192-3198	2.9	43
63	Performance Optimization and Instability Study in Ring Cavity Quantum Cascade Lasers. <i>IEEE Journal of Quantum Electronics</i> , 2015 , 51, 1-7	2	0
62	The influence of non-idealities on the thermoelectric power factor of nanostructured superlattices. <i>Journal of Applied Physics</i> , 2015 , 118, 224301	2.5	18
61	Very large strain gauges based on single layer MoSe ₂ and WSe ₂ for sensing applications. <i>Applied Physics Letters</i> , 2015 , 107, 253503	3.4	25
60	On the role of spatial position of bridged oxygen atoms as surface passivants on the ground-state gap and photo-absorption spectrum of silicon nano-crystals. <i>Journal of Applied Physics</i> , 2015 , 118, 205303-5	3.5	2
59	Modulation of electronic and mechanical properties of phosphorene through strain. <i>Physical Review B</i> , 2015 , 91,	3.3	155
58	Thermoelectric power factor optimization in nanocomposites by energy filtering using NEGF 2015 ,		1
57	A Non-Equilibrium Green Functions Study of Energy-Filtering Thermoelectrics Including Scattering. <i>Lecture Notes in Computer Science</i> , 2015 , 301-308	0.9	
56	High sensitive and selective flexible H ₂ S gas sensors based on Cu nanoparticle decorated SWCNTs. <i>Sensors and Actuators B: Chemical</i> , 2015 , 210, 1-8	8.5	88
55	On the role of disorder on graphene and graphene nanoribbon-based vertical tunneling transistors. <i>Journal of Applied Physics</i> , 2014 , 116, 184506	2.5	3
54	The effect of electron-electron interaction induced dephasing on electronic transport in graphene nanoribbons. <i>Applied Physics Letters</i> , 2014 , 105, 103502	3.4	8
53	High-performance infrared photo-transistor based on SWCNT decorated with PbS nanoparticles. <i>Sensors and Actuators A: Physical</i> , 2014 , 220, 213-220	3.9	12

52	A Computational Study on the Electronic Transport Properties of Ultranarrow Disordered Zigzag Graphene Nanoribbons. <i>IEEE Transactions on Electron Devices</i> , 2014 , 61, 23-29	2.9	16
51	The Non-Equilibrium Green's Function Method for Nanoscale Device Simulation. <i>Computational Microelectronics</i> , 2014 ,		22
50	A Comparative Study of Tunneling FETs Based on Graphene and GNR Heterostructures. <i>IEEE Transactions on Electron Devices</i> , 2014 , 61, 186-192	2.9	23
49	Optimization study of third harmonic generation in quantum cascade lasers. <i>Optics Express</i> , 2014 , 22, 20607-12	3.3	3
48	Asymmetric Gate Schottky-Barrier Graphene Nanoribbon FETs for Low-Power Design. <i>IEEE Transactions on Electron Devices</i> , 2014 , 61, 4000-4006	2.9	12
47	Tunable Bandgap in Bilayer Armchair Graphene Nanoribbons: Concurrent Influence of Electric Field and Uniaxial Strain. <i>IEEE Transactions on Electron Devices</i> , 2013 , 60, 2464-2470	2.9	14
46	A first-principles study on the effect of biaxial strain on the ultimate performance of monolayer MoS ₂ -based double gate field effect transistor. <i>Journal of Applied Physics</i> , 2013 , 113, 163708	2.5	47
45	Atomistic Study of the Lattice Thermal Conductivity of Rough Graphene Nanoribbons. <i>IEEE Transactions on Electron Devices</i> , 2013 , 60, 2142-2147	2.9	25
44	Substrate surface corrugation effects on the electronic transport in graphene nanoribbons. <i>Applied Physics Letters</i> , 2013 , 103, 143506	3.4	15
43	A Numerical Study of Line-Edge Roughness Scattering in Graphene Nanoribbons. <i>IEEE Transactions on Electron Devices</i> , 2012 , 59, 433-440	2.9	53
42	Device Performance of Graphene Nanoribbon Field-Effect Transistors in the Presence of Line-Edge Roughness. <i>IEEE Transactions on Electron Devices</i> , 2012 , 59, 3527-3532	2.9	43
41	A Computational Study on the Electronic Properties of Armchair Graphene Nanoribbons Confined by Boron Nitride. <i>Japanese Journal of Applied Physics</i> , 2012 , 51, 035101	1.4	
40	Analytical models of approximations for wave functions and energy dispersion in zigzag graphene nanoribbons. <i>Journal of Applied Physics</i> , 2012 , 111, 074318	2.5	6
39	Optical properties of armchair graphene nanoribbons embedded in hexagonal boron nitride lattices. <i>Journal of Applied Physics</i> , 2012 , 111, 093512	2.5	20
38	Engineering enhanced thermoelectric properties in zigzag graphene nanoribbons. <i>Journal of Applied Physics</i> , 2012 , 111, 054501	2.5	71
37	Geometrical study of nanoscale field effect diodes. <i>Semiconductor Science and Technology</i> , 2012 , 27, 045011	1.8	15
36	Study of thermal properties of graphene-based structures using the force constant method. <i>Journal of Computational Electronics</i> , 2012 , 11, 14-21	1.8	13
35	Geometrical effects on the thermoelectric properties of ballistic graphene antidot lattices. <i>Journal of Applied Physics</i> , 2011 , 110, 054506	2.5	61

34	. <i>IEEE Transactions on Electron Devices</i> , 2011 , 58, 2378-2384	2.9	33
33	An Analytical Model for Line-Edge Roughness Limited Mobility of Graphene Nanoribbons. <i>IEEE Transactions on Electron Devices</i> , 2011 , 58, 3725-3735	2.9	28
32	An Investigation of the Geometrical Effects on the Thermal Conductivity of Graphene Antidot Lattices. <i>ECS Transactions</i> , 2011 , 35, 185-192	1	
31	Graphene-Based Antidots for Thermoelectric Applications. <i>Journal of the Electrochemical Society</i> , 2011 , 158, K213	3.9	5
30	A comprehensive study of nanoscale Field Effect Diodes 2011 ,		2
29	Transport modeling for nanoscale semiconductor devices 2010 ,		6
28	Modeling demands for nanoscale devices 2010 ,		1
27	Performance evaluation of graphene nanoribbon infrared photodetectors 2009 ,		2
26	Computational study of carbon-based electronics. <i>Journal of Computational Electronics</i> , 2009 , 8, 427-440	1.8	12
25	On the non-locality of the electron-photon self-energy: Application to carbon nanotube photo-detectors 2008 ,		2
24	Modeling current transport in carbon nanotube transistors 2008 ,		1
23	The effect of inelastic phonon scattering on carbon nanotube-based transistor performance. <i>Journal of Physics: Conference Series</i> , 2008 , 109, 012029	0.3	2
22	Numerical study of quantum transport in carbon nanotube transistors. <i>Mathematics and Computers in Simulation</i> , 2008 , 79, 1051-1059	3.3	17
21	A multi-purpose Schrödinger-Poisson Solver for TCAD applications. <i>Journal of Computational Electronics</i> , 2007 , 6, 179-182	1.8	31
20	Tunneling CNTFETs. <i>Journal of Computational Electronics</i> , 2007 , 6, 243-246	1.8	16
19	Dissipative transport in CNTFETs. <i>Journal of Computational Electronics</i> , 2007 , 6, 321-324	1.8	8
18	Geometry optimization for carbon nanotube transistors. <i>Solid-State Electronics</i> , 2007 , 51, 1565-1571	1.7	2
17	The effect of phonon scattering on the switching response of carbon nanotube field-effect transistors. <i>Nanotechnology</i> , 2007 , 18, 424036	3.4	13

16	Carbon Nanotube Based Transistors: A Computational Study. <i>AIP Conference Proceedings</i> , 2007 ,	0	1
15	Investigation of a MOSCAP using NEGF 2007 ,		1
14	The Effect of Optical Phonon Scattering on the On-Current and Gate Delay Time of CNT-FETs 2007 , 309-312		
13	A Comprehensive Study of Carbon Nanotube Based Transistors: The Effects of Geometrical, Interface Barrier, and Scattering Parameters 2006 ,		1
12	Optimal Design for Carbon Nanotube Transistors 2006 ,		1
11	Fast Convergent Schrödinger-Poisson Solver for the Static and Dynamic Analysis of Carbon Nanotube Field Effect Transistors. <i>Lecture Notes in Computer Science</i> , 2006 , 578-585	0.9	9
10	Rigorous modeling of carbon nanotube transistors. <i>Journal of Physics: Conference Series</i> , 2006 , 38, 29-32	0.3	12
9	A fast and stable Poisson-Schrödinger solver for the analysis of carbon nanotube transistors. <i>Journal of Computational Electronics</i> , 2006 , 5, 155-159	1.8	11
8	Method for predicting f_{T} for carbon nanotube FETs. <i>IEEE Nanotechnology Magazine</i> , 2005 , 4, 699-706	0.6	45
7	Geometry-dependence of the DC and AC Response of Ohmic Contact Carbon Nanotube Field Effect Transistors 2005 ,		1
6	Optimization of single-gate carbon-nanotube field-effect transistors. <i>IEEE Nanotechnology Magazine</i> , 2005 , 4, 533-538	2.6	8
5	Optimization of Schottky barrier carbon nanotube field effect transistors. <i>Microelectronic Engineering</i> , 2005 , 81, 428-433	2.5	9
4	Numerical Analysis of Coaxial Double Gate Schottky Barrier Carbon Nanotube Field Effect Transistors. <i>Journal of Computational Electronics</i> , 2005 , 4, 75-78	1.8	14
3	Three-Dimensional Analysis of Schottky Barrier Carbon Nanotube Field Effect Transistors 2004 , 149-152		1
2	The effect of device geometry on the static and dynamic response of carbon nanotube field effect transistors		4
1	Improving the ambipolar behavior of Schottky barrier carbon nanotube field effect transistors		7