

Mahdi Pourfath

List of Publications by Citations

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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 | Modulation of electronic and mechanical properties of phosphorene through strain. <i>Physical Review B</i> , 2015 , 91, | 3.3 | 155 |
| 104 | Highly anisotropic thermal conductivity of arsenene: An ab initio study. <i>Physical Review B</i> , 2016 , 93, | 3.3 | 93 |
| 103 | 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 |
| 102 | Engineering enhanced thermoelectric properties in zigzag graphene nanoribbons. <i>Journal of Applied Physics</i> , 2012 , 111, 054501 | 2.5 | 71 |
| 101 | Geometrical effects on the thermoelectric properties of ballistic graphene antidot lattices. <i>Journal of Applied Physics</i> , 2011 , 110, 054506 | 2.5 | 61 |
| 100 | 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 |
| 99 | 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 |
| 98 | Method for predicting $f_{sub T/}$ for carbon nanotube FETs. <i>IEEE Nanotechnology Magazine</i> , 2005 , 4, 699-706 | 2.9 | 45 |
| 97 | . <i>IEEE Transactions on Electron Devices</i> , 2015 , 62, 3192-3198 | 2.9 | 43 |
| 96 | 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 |
| 95 | . <i>IEEE Transactions on Electron Devices</i> , 2011 , 58, 2378-2384 | 2.9 | 33 |
| 94 | Strain induced mobility modulation in single-layer MoS ₂ . <i>Journal Physics D: Applied Physics</i> , 2015 , 48, 375104 | 3 | 31 |
| 93 | 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 |
| 92 | A multi-purpose Schrödinger-Poisson Solver for TCAD applications. <i>Journal of Computational Electronics</i> , 2007 , 6, 179-182 | 1.8 | 31 |
| 91 | 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 |
| 90 | 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 |
| 89 | 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 |

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| 88 | 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 |
| 87 | The Non-Equilibrium Green's Function Method for Nanoscale Device Simulation. <i>Computational Microelectronics</i> , 2014 , | | 22 |
| 86 | Low-dimensional phonon transport effects in ultranarrow disordered graphene nanoribbons. <i>Physical Review B</i> , 2015 , 91, | 3.3 | 21 |
| 85 | Optical properties of armchair graphene nanoribbons embedded in hexagonal boron nitride lattices. <i>Journal of Applied Physics</i> , 2012 , 111, 093512 | 2.5 | 20 |
| 84 | 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 |
| 83 | 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 |
| 82 | Numerical study of quantum transport in carbon nanotube transistors. <i>Mathematics and Computers in Simulation</i> , 2008 , 79, 1051-1059 | 3.3 | 17 |
| 81 | 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 |
| 80 | 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 |
| 79 | Tunneling CNTFETs. <i>Journal of Computational Electronics</i> , 2007 , 6, 243-246 | 1.8 | 16 |
| 78 | Substrate surface corrugation effects on the electronic transport in graphene nanoribbons. <i>Applied Physics Letters</i> , 2013 , 103, 143506 | 3.4 | 15 |
| 77 | Geometrical study of nanoscale field effect diodes. <i>Semiconductor Science and Technology</i> , 2012 , 27, 045011 | 1.8 | 15 |
| 76 | 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 |
| 75 | 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 |
| 74 | 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 |
| 73 | The effect of phonon scattering on the switching response of carbon nanotube field-effect transistors. <i>Nanotechnology</i> , 2007 , 18, 424036 | 3.4 | 13 |
| 72 | 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 |
| 71 | 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 |

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| 70 | Computational study of carbon-based electronics. <i>Journal of Computational Electronics</i> , 2009 , 8, 427-440. | 1.8 | 12 |
| 69 | Rigorous modeling of carbon nanotube transistors. <i>Journal of Physics: Conference Series</i> , 2006 , 38, 29-32. | 0.3 | 12 |
| 68 | 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 |
| 67 | Electronic Transport Properties of Silicane Determined from First Principles. <i>Materials</i> , 2019 , 12, | 3.5 | 11 |
| 66 | Numerical Study of Graphene Superlattice-Based Photodetectors. <i>IEEE Transactions on Electron Devices</i> , 2015 , 62, 593-600 | 2.9 | 11 |
| 65 | 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 |
| 64 | 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 |
| 63 | 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 |
| 62 | 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 |
| 61 | 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 |
| 60 | 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 |
| 59 | Optimization of Schottky barrier carbon nanotube field effect transistors. <i>Microelectronic Engineering</i> , 2005 , 81, 428-433 | 2.5 | 9 |
| 58 | 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 |
| 57 | 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 |
| 56 | 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 |
| 55 | Dissipative transport in CNTFETs. <i>Journal of Computational Electronics</i> , 2007 , 6, 321-324 | 1.8 | 8 |
| 54 | Optimization of single-gate carbon-nanotube field-effect transistors. <i>IEEE Nanotechnology Magazine</i> , 2005 , 4, 533-538 | 2.6 | 8 |
| 53 | Ferroelectricity and phase transitions in InSe van der Waals material. <i>Nanoscale</i> , 2020 , 12, 22688-22697 | 7.7 | 8 |

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| 52 | Impact of Different Ratios of Fluorine, Oxygen, and Hydroxyl Surface Terminations on Ti3C2Tx MXene as Ammonia Sensor: A First-Principles Study 2018 , | | 8 |
| 51 | Enhanced spin-flip scattering by surface roughness in WS2 and MoS2 armchair nanoribbons. <i>Physical Review B</i> , 2017 , 95, | 3.3 | 7 |
| 50 | 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 | 3.3 | 7 |
| 49 | Improving the ambipolar behavior of Schottky barrier carbon nanotube field effect transistors | | 7 |
| 48 | Vertical Tunneling Graphene Heterostructure-Based Transistor for Pressure Sensing. <i>IEEE Electron Device Letters</i> , 2015 , 36, 280-282 | 4.4 | 6 |
| 47 | 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 |
| 46 | Transport modeling for nanoscale semiconductor devices 2010 , | | 6 |
| 45 | Spin relaxation in graphene nanoribbons in the presence of substrate surface roughness. <i>Journal of Applied Physics</i> , 2016 , 120, 053904 | 2.5 | 6 |
| 44 | 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 |
| 43 | Ab initio effective deformation potentials of phosphorene and consistency checks. <i>Journal of Physics Condensed Matter</i> , 2018 , 30, 225701 | 1.8 | 5 |
| 42 | Graphene-Based Antidots for Thermoelectric Applications. <i>Journal of the Electrochemical Society</i> , 2011 , 158, K213 | 3.9 | 5 |
| 41 | The effect of oxide shell thickness on the structural, electronic, and optical properties of Si-SiO2 core-shell nano-crystals: A (time dependent) density functional theory study. <i>Journal of Applied Physics</i> , 2016 , 119, 144302 | 2.5 | 5 |
| 40 | 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 |
| 39 | An MoS2-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 |
| 38 | The effect of device geometry on the static and dynamic response of carbon nanotube field effect transistors | | 4 |
| 37 | Dielectrophoretic borophene tweezer: Sub-10 mV nano-particle trapping. <i>Applied Surface Science</i> , 2020 , 527, 146859 | 6.7 | 3 |
| 36 | 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 |
| 35 | 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 |

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| 34 | Optimization study of third harmonic generation in quantum cascade lasers. <i>Optics Express</i> , 2014 , 22, 20607-12 | 3.3 | 3 |
| 33 | 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 |
| 32 | 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 |
| 31 | Performance evaluation of graphene nanoribbon infrared photodetectors 2009 , | | 2 |
| 30 | A comprehensive study of nanoscale Field Effect Diodes 2011 , | | 2 |
| 29 | On the non-locality of the electron-photon self-energy: Application to carbon nanotube photo-detectors 2008 , | | 2 |
| 28 | 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 |
| 27 | Geometry optimization for carbon nanotube transistors. <i>Solid-State Electronics</i> , 2007 , 51, 1565-1571 | 1.7 | 2 |
| 26 | 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 |
| 25 | Electronic transport in graphene nanoribbons with correlated line-edge roughness. <i>Journal Physics D: Applied Physics</i> , 2019 , 52, 375102 | 3 | 1 |
| 24 | Current induced forces in graphene nanoribbons. <i>Journal of Applied Physics</i> , 2019 , 125, 144503 | 2.5 | 1 |
| 23 | 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 |
| 22 | 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 |
| 21 | Thermoelectric power factor optimization in nanocomposites by energy filtering using NEGF 2015 , | | 1 |
| 20 | Modeling demands for nanoscale devices 2010 , | | 1 |
| 19 | Modeling current transport in carbon nanotube transistors 2008 , | | 1 |
| 18 | A Comprehensive Study of Carbon Nanotube Based Transistors: The Effects of Geometrical, Interface Barrier, and Scattering Parameters 2006 , | | 1 |
| 17 | Carbon Nanotube Based Transistors: A Computational Study. <i>AIP Conference Proceedings</i> , 2007 , | 0 | 1 |

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| 16 | Investigation of a MOSCAP using NEGF 2007 , | | 1 |
| 15 | Geometry-dependence of the DC and AC Response of Ohmic Contact Carbon Nanotube Field Effect Transistors 2005 , | | 1 |
| 14 | Optimal Design for Carbon Nanotube Transistors 2006 , | | 1 |
| 13 | Three-Dimensional Analysis of Schottky Barrier Carbon Nanotube Field Effect Transistors 2004 , 149-152 | | 1 |
| 12 | First-principles Study of the Electron and Hole Mobility in Silicane 2019 , | | 1 |
| 11 | 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 |
| 10 | Performance Optimization and Instability Study in Ring Cavity Quantum Cascade Lasers. <i>IEEE Journal of Quantum Electronics</i> , 2015 , 51, 1-7 | 2 | 0 |
| 9 | Tunable natural terahertz and mid-infrared hyperbolic plasmons in carbon phosphide. <i>Carbon</i> , 2021 , 178, 625-631 | 10.4 | 0 |
| 8 | Anisotropic electronic and plasmonic properties of 2H-TiS ₂ . <i>Journal Physics D: Applied Physics</i> , 2021 , 54, 195304 | 3 | 0 |
| 7 | 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 |
| 6 | 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 | |
| 5 | A Non-Equilibrium Green Functions Study of Energy-Filtering Thermoelectrics Including Scattering. <i>Lecture Notes in Computer Science</i> , 2015 , 301-308 | 0.9 | |
| 4 | 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 | |
| 3 | An Investigation of the Geometrical Effects on the Thermal Conductivity of Graphene Antidot Lattices. <i>ECS Transactions</i> , 2011 , 35, 185-192 | 1 | |
| 2 | The Effect of Optical Phonon Scattering on the On-Current and Gate Delay Time of CNT-FETs 2007 , 309-312 | | |
| 1 | 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 | |