

Mehdi Neek-Amal

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.

101 papers	2,553 citations	31 h-index	46 g-index
107 ext. papers	2,986 ext. citations	5.3 avg, IF	5.59 L-index

#	Paper	IF	Citations
101	Catalytic properties of cyclo-carbon clusters: An investigation on o ₂ activation and CO oxidation. <i>Surface Science</i> , 2022 , 720, 122050	1.8	0
100	Trilayer Metal-Organic Frameworks as Multifunctional Electrocatalysts for Energy Conversion and Storage Applications.. <i>Journal of the American Chemical Society</i> , 2022 ,	16.4	12
99	Comment on A novel two-dimensional boron-carbon-nitride (BCN) monolayer: A first-principles insight[J. Appl. Phys. 130, 114301 (2021)]. <i>Journal of Applied Physics</i> , 2022 , 131, 216101	2.5	
98	Simulative Molecular Modelling of MXene. <i>Engineering Materials</i> , 2022 , 109-138	0.4	
97	Gas Permeability and Selectivity of a Porous WS ₂ Monolayer. <i>Journal of Physical Chemistry C</i> , 2021 , 125, 25055-25066	3.8	3
96	Abnormal in-plane permittivity and ferroelectricity of confined water: From sub-nanometer channels to bulk. <i>Journal of Chemical Physics</i> , 2021 , 154, 114503	3.9	5
95	Oscillation in the electrical conductivity of a thick graphene oxide membrane. <i>Journal of Applied Physics</i> , 2021 , 129, 235105	2.5	0
94	Tunable natural terahertz and mid-infrared hyperbolic plasmons in carbon phosphide. <i>Carbon</i> , 2021 , 178, 625-631	10.4	0
93	Hydration effects and negative dielectric constant of nano-confined water between cation intercalated MXenes. <i>Nanoscale</i> , 2021 , 13, 922-929	7.7	3
92	Abnormal Dielectric Constant of Nanoconfined Water between Graphene Layers in the Presence of Salt. <i>Journal of Physical Chemistry B</i> , 2021 , 125, 1604-1610	3.4	3
91	The inhibition performance of quinoa seed on corrosion behavior of carbon steel in the HCl solution; theoretical and experimental evaluations. <i>Journal of Molecular Liquids</i> , 2021 , 335, 116183	6	7
90	Breakdown of Universal Scaling for Nanometer-Sized Bubbles in Graphene. <i>Nano Letters</i> , 2021 , 21, 8103-8110	11.0	5
89	Evaluating gas permeance through graphene nanopores and porous 2D-membranes: A generalized approach. <i>Carbon Trends</i> , 2021 , 5, 100086	0	1
88	Electronic Properties of Oxidized Graphene: Effects of Strain and an Electric Field on Flat Bands and the Energy Gap.. <i>Journal of Physical Chemistry Letters</i> , 2021 , 66-74	6.4	0
87	Optoelectronic properties of confined water in angstrom-scale slits. <i>Physical Review B</i> , 2020 , 102,	3.3	2
86	Electronic, dielectric, and optical properties of two-dimensional and bulk ice: A multiscale simulation study. <i>Physical Review B</i> , 2020 , 101,	3.3	8
85	Tuning the electronic properties of graphene/graphitic carbon nitride heterostructures and heterojunctions by using an electric field. <i>Physical Review B</i> , 2020 , 101,	3.3	36

84	Two-dimensional graphitic carbon nitrides: Strain-tunable ferromagnetic ordering. <i>Physical Review B</i> , 2020 , 101,	3.3	30
83	Out-of-plane permittivity of confined water. <i>Physical Review E</i> , 2020 , 102, 022803	2.4	20
82	Gas flow through atomic-scale apertures. <i>Science Advances</i> , 2020 , 6,	14.3	8
81	Self-Limiting Growth of Two-Dimensional Palladium between Graphene Oxide Layers. <i>Nano Letters</i> , 2019 , 19, 4678-4683	11.5	7
80	Ionized water confined in graphene nanochannels. <i>Physical Chemistry Chemical Physics</i> , 2019 , 21, 9285-9295	3.5	7
79	Electric-field-induced emergent electrical connectivity in graphene oxide. <i>Physical Review B</i> , 2019 , 99,	3.3	2
78	Mechanical properties of twin graphene subjected to uniaxial stress by molecular dynamic simulation. <i>Materials Research Express</i> , 2019 , 6, 105611	1.7	5
77	Electrostrictive behavior of confined water subjected to GPa pressure. <i>Physical Review B</i> , 2018 , 97,	3.3	7
76	Transport of hydrogen isotopes through interlayer spacing in van der Waals crystals. <i>Nature Nanotechnology</i> , 2018 , 13, 468-472	28.7	26
75	Electrically controlled water permeation through graphene oxide membranes. <i>Nature</i> , 2018 , 559, 236-240	50.4	177
74	Fast water flow through graphene nanocapillaries: A continuum model approach involving the microscopic structure of confined water. <i>Applied Physics Letters</i> , 2018 , 113, 083101	3.4	23
73	Slippage dynamics of confined water in graphene oxide capillaries. <i>Physical Review Materials</i> , 2018 , 2,	3.2	6
72	Thermal activated rotation of graphene flake on graphene. <i>2D Materials</i> , 2017 , 4, 025015	5.9	12
71	Electro- and opto-mutable properties of MgO nanoclusters adsorbed on mono- and double-layer graphene. <i>Nanoscale</i> , 2017 , 9, 4205-4218	7.7	19
70	Reversible structural transition in nanoconfined ice. <i>Physical Review B</i> , 2017 , 95,	3.3	21
69	Dependence of the shape of graphene nanobubbles on trapped substance. <i>Nature Communications</i> , 2017 , 8, 15844	17.4	39
68	Temperature distribution in graphene doped with nitrogen and graphene with grain boundary. <i>Journal of Molecular Graphics and Modelling</i> , 2017 , 74, 100-104	2.8	11
67	Large CO ₂ uptake on a monolayer of CaO. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 2110-2114	13	2

66	Unconventional two-dimensional vibrations of a decorated carbon nanotube under electric field: linking actuation to advanced sensing ability. <i>Scientific Reports</i> , 2017 , 7, 13481	4.9	1
65	The formation of Cr ₂ O ₃ nanoclusters over graphene sheet and carbon nanotubes. <i>Chemical Physics Letters</i> , 2017 , 687, 188-193	2.5	2
64	Spatial design and control of graphene flake motion. <i>Physical Review B</i> , 2017 , 96,	3.3	2
63	Monolayer alkali and transition-metal monoxides: MgO, CaO, MnO, and NiO. <i>Physical Review B</i> , 2017 , 95,	3.3	19
62	Anomalous Dynamical Behavior of Freestanding Graphene Membranes. <i>Physical Review Letters</i> , 2016 , 117, 126801	7.4	39
61	Electric-field-induced structural changes in water confined between two graphene layers. <i>Physical Review B</i> , 2016 , 94,	3.3	28
60	N-doped graphene: Polarization effects and structural properties. <i>Physical Review B</i> , 2016 , 93,	3.3	15
59	Static flexural modes and piezoelectricity in 2D and layered crystals. <i>Physica Status Solidi (B): Basic Research</i> , 2016 , 253, 2311-2315	1.3	4
58	Van der Waals pressure and its effect on trapped interlayer molecules. <i>Nature Communications</i> , 2016 , 7, 12168	17.4	91
57	Commensurability Effects in Viscosity of Nanoconfined Water. <i>ACS Nano</i> , 2016 , 10, 3685-92	16.7	141
56	Graphene ripples as a realization of a two-dimensional Ising model: A scanning tunneling microscope study. <i>Physical Review B</i> , 2015 , 91,	3.3	19
55	Molecular dynamics simulation of temperature profile in partially hydrogenated graphene and graphene with grain boundary. <i>Journal of Molecular Graphics and Modelling</i> , 2015 , 62, 38-42	2.8	5
54	Graphene-silicene bilayer: A nanocapacitor with permanent dipole and piezoelectricity effect. <i>Physical Review B</i> , 2015 , 92,	3.3	16
53	Partially hydrogenated and fluorinated graphene: Structure, roughness, and negative thermal expansion. <i>Physical Review B</i> , 2015 , 92,	3.3	4
52	AA-stacked bilayer square ice between graphene layers. <i>Physical Review B</i> , 2015 , 92,	3.3	41
51	Rippling, buckling, and melting of single- and multilayer MoS ₂ . <i>Physical Review B</i> , 2015 , 91,	3.3	37
50	Diffusion of fluorine on and between graphene layers. <i>Physical Review B</i> , 2015 , 91,	3.3	15
49	Unusual ultra-low-frequency fluctuations in freestanding graphene. <i>Nature Communications</i> , 2014 , 5, 3720	17.4	53

48	Stabilized silicene within bilayer graphene: A proposal based on molecular dynamics and density-functional tight-binding calculations. <i>Physical Review B</i> , 2014 , 89,	3.3	42
47	Electronic properties of graphene nano-flakes: energy gap, permanent dipole, termination effect, and Raman spectroscopy. <i>Journal of Chemical Physics</i> , 2014 , 140, 074304	3.9	28
46	The different adsorption mechanism of methane molecule onto a boron nitride and a graphene flakes. <i>Journal of Applied Physics</i> , 2014 , 116, 153507	2.5	12
45	Multilayer graphene, Moiré patterns, grain boundaries and defects identified by scanning tunneling microscopy on the m-plane, non-polar surface of SiC. <i>Carbon</i> , 2014 , 80, 75-81	10.4	16
44	Graphene on boron-nitride: Moiré pattern in the van der Waals energy. <i>Applied Physics Letters</i> , 2014 , 104, 041909	3.4	60
43	Thermal mirror buckling in freestanding graphene locally controlled by scanning tunnelling microscopy. <i>Nature Communications</i> , 2014 , 5, 4962	17.4	31
42	Melting of Partially Fluorinated Graphene: From Detachment of Fluorine Atoms to Large Defects and Random Coils. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 4460-4464	3.8	14
41	Self-organized platinum nanoparticles on freestanding graphene. <i>ACS Nano</i> , 2014 , 8, 2697-703	16.7	36
40	Membrane amplitude and triaxial stress in twisted bilayer graphene deciphered using first-principles directed elasticity theory and scanning tunneling microscopy. <i>Physical Review B</i> , 2014 , 90,	3.3	9
39	Graphene on hexagonal lattice substrate: Stress and pseudo-magnetic field. <i>Applied Physics Letters</i> , 2014 , 104, 173106	3.4	16
38	The effects of temperature and vacancies on dynamics of crack in graphene sheet. <i>AIP Advances</i> , 2014 , 4, 057113	1.5	13
37	Electronic structure of a hexagonal graphene flake subjected to triaxial stress. <i>Physical Review B</i> , 2013 , 88,	3.3	39
36	Realization of free-standing silicene using bilayer graphene. <i>Applied Physics Letters</i> , 2013 , 103, 261904	3.4	75
35	Doping effect on the adsorption of NH ₃ molecule onto graphene quantum dot: From the physisorption to the chemisorption. <i>Journal of Applied Physics</i> , 2013 , 114, 124307	2.5	12
34	Spiral graphone and one-sided fluorographene nanoribbons. <i>Physical Review B</i> , 2013 , 87,	3.3	17
33	Melting of graphene clusters. <i>Physical Review B</i> , 2013 , 87,	3.3	24
32	Thermal properties of fluorinated graphene. <i>Physical Review B</i> , 2013 , 87,	3.3	75
31	Boron Nitride Monolayer: A Strain-Tunable Nanosensor. <i>Journal of Physical Chemistry C</i> , 2013 , 117, 13261-13267	3.3	37

30	Thermomechanical properties of a single hexagonal boron nitride sheet. <i>Physical Review B</i> , 2013 , 87,	3.3	72
29	Van der Waals energy surface of a carbon nanotube sheet. <i>Solid State Communications</i> , 2012 , 152, 225-230	3.3	3
28	Induced polarization and electronic properties of carbon-doped boron nitride nanoribbons. <i>Physical Review B</i> , 2012 , 86,	3.3	36
27	Methane molecule over the defected and rippled graphene sheet. <i>Solid State Communications</i> , 2012 , 152, 1493-1496	1.6	16
26	Effect of grain boundary on the buckling of graphene nanoribbons. <i>Applied Physics Letters</i> , 2012 , 100, 101905	3.4	16
25	Thermomechanical properties of graphene: valence force field model approach. <i>Journal of Physics Condensed Matter</i> , 2012 , 24, 175303	1.8	14
24	Strain-engineered graphene through a nanostructured substrate. I. Deformations. <i>Physical Review B</i> , 2012 , 85,	3.3	54
23	Strain-engineered graphene through a nanostructured substrate. II. Pseudomagnetic fields. <i>Physical Review B</i> , 2012 , 85,	3.3	28
22	Thermal rippling behavior of graphane. <i>Physical Review B</i> , 2012 , 86,	3.3	46
21	Nanoengineered nonuniform strain in graphene using nanopillars. <i>Physical Review B</i> , 2012 , 86,	3.3	49
20	Lattice thermal properties of graphane: Thermal contraction, roughness, and heat capacity. <i>Physical Review B</i> , 2011 , 83,	3.3	43
19	Comment on "Irreversibility in response to forces acting on graphene sheets". <i>Physical Review Letters</i> , 2011 , 106, 209701; author reply 209702	7.4	2
18	Buckled circular monolayer graphene: a graphene nano-bowl. <i>Journal of Physics Condensed Matter</i> , 2011 , 23, 045002	1.8	23
17	Directed motion of C60 on a graphene sheet subjected to a temperature gradient. <i>Physical Review E</i> , 2011 , 83, 042601	2.4	31
16	Nanoindentation of a circular sheet of bilayer graphene. <i>Physical Review B</i> , 2010 , 81,	3.3	105
15	Stochastic motion of noble gases on a graphene sheet. <i>Computational Materials Science</i> , 2010 , 49, 839-844	3.4	8
14	Diffusive motion of C60 on a graphene sheet. <i>Physical Review E</i> , 2010 , 82, 051605	2.4	34
13	Graphene nanoribbons subjected to axial stress. <i>Physical Review B</i> , 2010 , 82,	3.3	84

12	Defected graphene nanoribbons under axial compression. <i>Applied Physics Letters</i> , 2010 , 97, 153118	3-4	47
11	Linear reduction of stiffness and vibration frequencies in defected circular monolayer graphene. <i>Physical Review B</i> , 2010 , 81,	3-3	39
10	Electric field effects on Nano-Scale bio-membrane of spherical cells. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2009 , 388, 120-128	3-3	4
9	The formation of atomic nanoclusters on graphene sheets. <i>Nanotechnology</i> , 2009 , 20, 135602	3-4	79
8	Effective potential of longitudinal interactions between microtubule protofilaments. <i>Physical Review E</i> , 2008 , 78, 011912	2-4	
7	Ground state study of simple atoms within a nanoscale box. <i>Solid State Communications</i> , 2008 , 145, 594-599	3-4	4
6	Study of Hydrogen Molecule and Hydrogen Molecular Ion Confined in C60 Fullerene. <i>Journal of Computational and Theoretical Nanoscience</i> , 2008 , 5, 366-374	0-3	2
5	Enhanced roughness of lipid membranes caused by external electric fields. <i>Computational Materials Science</i> , 2007 , 41, 202-207	3-2	2
4	Ground-state properties of a confined simple atom by C60 fullerene. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2007 , 40, 1509-1521	1-3	17
3	Asymmetric simple exclusion process describing conflicting traffic flows. <i>Europhysics Letters</i> , 2007 , 80, 60002	1-6	37
2	Roughness of undoped graphene and its short-range induced gauge field. <i>Physical Review B</i> , 2007 , 76,	3-3	55
1	Monte Carlo simulation of size effects on thermal conductivity in a two-dimensional Ising system. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2006 , 371, 424-432	3-3	7