Oded Hod

List of Publications by Year
in descending order

77 papers	6,966 citations	37 h-index (94269)	75 g-index (74018)
79 all docs	79 docs citations	79 times ranked	6939 citing authors

#	ARTICLE	IF	CITATIONS
1	Electronic Structure and Stability of Semiconducting Graphene Nanoribbons. Nano Letters, 2006, 6, 2748-2754.	4.5	1,568
2	Enhanced Half-Metallicity in Edge-Oxidized Zigzag Graphene Nanoribbons. Nano Letters, 2007, 7, 2295-2299.	4.5	547
3	Structural superlubricity and ultralow friction across the length scales. Nature, 2018, 563, 485-492.	13.7	382
4	Robust microscale superlubricity in graphite/hexagonal boron nitride layered heterojunctions. Nature Materials, 2018, 17, 894-899.	13.3	292
5	Half-metallic graphene nanodots: A comprehensive first-principles theoretical study. Physical Review B, 2008, 77, .	1.1	290
6	Stacking and Registry Effects in Layered Materials: The Case of Hexagonal Boron Nitride. Physical Review Letters, 2010, 105, 046801.	2.9	283
7	Dispersion Interactions with Density-Functional Theory: Benchmarking Semiempirical and Interatomic Pairwise Corrected Density Functionals. Journal of Chemical Theory and Computation, 2011, 7, 3944-3951.	2.3	265
8	Interfacial ferroelectricity by van der Waals sliding. Science, 2021, 372, 1462-1466.	6.0	262
9	Graphite and Hexagonal Boron-Nitride have the Same Interlayer Distance. Why?. Journal of Chemical Theory and Computation, 2012, 8, 1360-1369.	2.3	256
10	Robust Superlubricity in Graphene/<i>h</i>-BN Heterojunctions. Journal of Physical Chemistry Letters, 2013, 4, 115-120.	2.1	184
11	Electronic structure of copper phthalocyanine: A comparative density functional theory study. Journal of Chemical Physics, 2008, 128, 164107.	1.2	153
12	Edge effects in finite elongated graphene nanoribbons. Physical Review B, 2007, 76, .	1.1	148
13	Theory of Chirality Induced Spin Selectivity: Progress and Challenges. Advanced Materials, 2022, 34, e2106629.	11.1	119
14	Electromechanical Properties of Suspended Graphene Nanoribbons. Nano Letters, 2009, 9, 2619-2622.	4.5	114
15	Sliding friction of graphene/hexagonal â€“boron nitride heterojunctions: a route to robust superlubricity. Scientific Reports, 2017, 7, 10851.	1.6	108
16	Interlayer Potential for Graphene/<i>h</i>-BN Heterostructures. Journal of Chemical Theory and Computation, 2016, 12, 2896-2905.	2.3	107
17	Coherent commensurate electronic states at the interface between misoriented graphene layers. Nature Nanotechnology, 2016, 11, 752-757.	15.6	107
18	Nanoserpents: Graphene Nanoribbon Motion on Two-Dimensional Hexagonal Materials. Nano Letters, 2018, 18, 6009-6016.	4.5	104

#	Article	IF	Citations
19	Interlayer commensurability and superlubricity in rigid layered materials. Physical Review B, 2012, 86, .	1.1	80
20	Circular Currents in Molecular Wires. Journal of Physical Chemistry C, 2010, 114, 20583-20594.	1.5	77
21	Inter-layer potential for hexagonal boron nitride. Journal of Chemical Physics, 2014, 140, 104106.	1.2	72
22	Half-Metallic Zigzag Carbon Nanotube Dots. ACS Nano, 2008, 2, 2243-2249.	7.3	68
23	Negative Friction Coefficients in Superlubric Graphiteâ€"Hexagonal Boron Nitride Heterojunctions. Physical Review Letters, 2019, 122, 076102.	2.9	63
24	The Registry Index: A Quantitative Measure of Materialsâ€² Interfacial Commensurability. ChemPhysChem, 2013, 14, 2376-2391.	1.0	62
25	Interlayer Potential for Homogeneous Graphene and Hexagonal Boron Nitride Systems: Reparametrization for Many-Body Dispersion Effects. Journal of Physical Chemistry C, 2017, 121, 22826-22835.	1.5	61
26	Constructing spin interference devices from nanometric rings. Physical Review B, 2007, 76, .	1.1	57
27	State Representation Approach for Atomistic Time-Dependent Transport Calculations in Molecular Junctions. Journal of Chemical Theory and Computation, 2014, 10, 2927-2941.	2.3	56
28	Magnetic fields effects on the electronic conduction properties of molecular ring structures. Physical Review B, 2012, 85, .	1.1	52
29	Long-Range Spin-Selective Transport in Chiral Metalâ€"Organic Crystals with Temperature-Activated Magnetization. ACS Nano, 2020, 14, 16624-16633.	7.3	51
30	A Parallel Electromagnetic Molecular Logic Gate. Journal of the American Chemical Society, 2005, 127, 1648-1649.	6.6	50
31	Controllable Thermal Conductivity in Twisted Homogeneous Interfaces of Graphene and Hexagonal Boron Nitride. Nano Letters, 2020, 20, 7513-7518.	4.5	50
32	Multiwalled nanotube faceting unravelled. Nature Nanotechnology, 2016, 11, 1082-1086.	15.6	47
33	Magnetic Field Control of the Current through Molecular Ring Junctions. Journal of Physical Chemistry Letters, 2011, 2, 2118-2124.	2.1	46
34	Interlayer Registry to Determine the Sliding Potential of Layered Metal Dichalcogenides: The Case of <i>2H</i>-MoS₂. Journal of Physical Chemistry Letters, 2012, 3, 1936-1940.	2.1	46
35	Magnetoresistance of Nanoscale Molecular Devices. Accounts of Chemical Research, 2006, 39, 109-117.	7.6	45
36	Parameter-free driven Liouville-von Neumann approach for time-dependent electronic transport simulations in open quantum systems. Journal of Chemical Physics, 2017, 146, 092331.	1.2	40

#	Article	IF	Citations
37	Mechanical and Tribological Properties of Layered Materials under High Pressure: Assessing the Importance of Many-Body Dispersion Effects. Journal of Chemical Theory and Computation, 2020, 16, 666-676.	2.3	39
38	First-principles electronic transport calculations in finite elongated systems: A divide and conquer approach. Journal of Chemical Physics, 2006, 125, 114704.	1.2	33
39	Moleculeâ€"Lead Coupling at Molecular Junctions: Relation between the Real- and State-Space Perspectives. Journal of Chemical Theory and Computation, 2015, 11, 4861-4869.	2.3	33
40	Driven Liouville von Neumann Equation in Lindblad Form. Journal of Physical Chemistry A, 2016, 120, 3278-3285.	1.1	33
41	Role of Backbone Charge Rearrangement in the Bond-Dipole and Work Function of Molecular Monolayers. Journal of Physical Chemistry C, 2011, 115, 24888-24892.	1.5	31
42	Feasible Nanometric Magnetoresistance Devices. Journal of Physical Chemistry B, 2004, 108, 14807-14810.	1.2	30
43	Magnetoresistance of nanoscale molecular devices based on Aharonovâ€"Bohm interferometry. Journal of Physics Condensed Matter, 2008, 20, 383201.	0.7	30
44	Effects of Edge Oxidation on the Structural, Electronic, and Magnetic Properties of Zigzag Boron Nitride Nanoribbons. Journal of Chemical Theory and Computation, 2014, 10, 373-380.	2.3	30
45	Quantifying the Stacking Registry Matching in Layered Materials. Israel Journal of Chemistry, 2010, 50, 506-514.	1.0	28
46	Magnetization Dynamics from Time-Dependent Noncollinear Spin Density Functional Theory Calculations. Journal of Chemical Theory and Computation, 2015, 11, 3661-3668.	2.3	28
47	Bioinspired Flexible and Tough Layered Peptide Crystals. Advanced Materials, 2018, 30, 1704551.	11.1	28
48	Driven Liouville von Neumann Approach for Time-Dependent Electronic Transport Calculations in a Nonorthogonal Basis-Set Representation. Journal of Physical Chemistry C, 2016, 120, 15052-15062.	1.5	27
49	Inelastic Effects in Aharonov-Bohm Molecular Interferometers. Physical Review Letters, 2006, 97, 266803.	2.9	25
50	The Princess and the Nanoscale Pea: Long-Range Penetration of Surface Distortions into Layered Materials Stacks. ACS Nano, 2019, 13, 7603-7609.	7.3	23
51	Parity-Dependent MoirÃ© Superlattices in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Graphene</mml:mi><mml:mo>/</mml:mo><mml:mi>h</mml:mi><mml:mtext>âˆ’</mml:mtext Heterostructures: A Route to Mechanomutable Metamaterials. Physical Review Letters, 2021, 126, 216101.	2.9	17
52	A coarse-grained model for a nanometer-scale molecular pump. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 14661-14665.	3.3	16
53	Smallest Archimedean Screw: Facet Dynamics and Friction in Multiwalled Nanotubes. Nano Letters, 2017, 17, 5321-5328.	4.5	16
54	Numerical Approach to Nonequilibrium Quantum Thermodynamics: Nonperturbative Treatment of the Driven Resonant Level Model Based on the Driven Liouville von-Neumann Formalism. Journal of Chemical Theory and Computation, 2020, 16, 1232-1248.	2.3	16

#	Article	IF	Citations
55	Mechanisms of frictional energy dissipation at graphene grain boundaries. Physical Review B, 2021, 103, .	1.1	16
56	Nanotube Motion on Layered Materials: A Registry Perspective. Journal of Physical Chemistry C, 2016, 120, 4466-4470.	1.5	14
57	Superlubric polycrystalline graphene interfaces. Nature Communications, 2021, 12, 5694.	5.8	14
58	Evaluation of dynamical properties of open quantum systems using the driven Liouville-von Neumann approach: methodological considerations. Molecular Physics, 2019, 117, 2083-2096.	0.8	13
59	Anisotropic Interlayer Force Field for Transition Metal Dichalcogenides: The Case of Molybdenum Disulfide. Journal of Chemical Theory and Computation, 2021, 17, 7237-7245.	2.3	12
60	Catalytic Growth of Ultralong Graphene Nanoribbons on Insulating Substrates. Advanced Materials, 2022, 34, e2200956.	11.1	12
61	Graphene Nanoribbons-Based Ultrasensitive Chemical Detectors. Journal of Physical Chemistry C, 2016, 120, 3791-3797.	1.5	11
62	Magnetoresistance devices based on single-walled carbon nanotubes. Journal of Chemical Physics, 2005, 123, 051103.	1.2	10
63	Real-space method for highly parallelizable electronic transport calculations. Physical Review B, 2014, 90, .	1.1	10
64	Terahertz spectroscopy of 2,4,6-trinitrotoluene molecular solids from first principles. Beilstein Journal of Organic Chemistry, 2018, 14, 381-388.	1.3	10
65	The scaling laws of edge vs. bulk interlayer conduction in mesoscale twisted graphitic interfaces. Nature Communications, 2020, 11, 4746.	5.8	8
66	Flatlands in the Holy Land: The Evolution of Layered Materials Research in Israel. Advanced Materials, 2018, 30, e1706581.	11.1	7
67	Selectivity of a Graphene Nanoribbon-Based Trinitrotoluene Detector: A Computational Assessment. Journal of Physical Chemistry C, 2017, 121, 21546-21552.	1.5	6
68	Registry-Dependent Peeling of Layered Material Interfaces: The Case of Graphene Nanoribbons on Hexagonal Boron Nitride. ACS Applied Materials & Interfaces, 2021, 13, 43533-43539.	4.0	6
69	Registry-Dependent Potential for Interfaces of Gold with Graphitic Systems. Journal of Chemical Theory and Computation, 2021, 17, 7215-7223.	2.3	5
70	Simulating Electron Dynamics in Open Quantum Systems under Magnetic Fields. Journal of Physical Chemistry C, 2020, 124, 8652-8662.	1.5	4
71	Magnetic control over the fundamental structure of atomic wires. Nature Communications, 2022, 13, .	5.8	4
72	Interlayer Registry Index of Layered Transition Metal Dichalcogenides. Journal of Physical Chemistry Letters, 2022, 13, 3353-3359.	2.1	3

#	Article	IF	Citations
73	Edge State Quantum Interference in Twisted Graphitic Interfaces. Advanced Science, 2022, , 2102261.	5.6	2
74	Sliding on the edge. Nature Materials, 2022, 21, 12-14.	13.3	2
75	The Chemistry of Short-Lived Î±-Fluorocarbocations. Journal of Organic Chemistry, 2021, 86, 3882-3889.	1.7	1
76	Towards graphene based ultrasensitive chemical detectors: Lithium anchoring of organic molecules on the surface of graphene. , 2013, , .		0
77	Bionanostructures: Bioinspired Flexible and Tough Layered Peptide Crystals (Adv. Mater. 5/2018). Advanced Materials, 2018, 30, 1870035.	11.1	0