Jeffrey C Grossman

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.

125
papers5,353
citations37
h-index70
g-index129
ext. papers6,820
ext. citations12
avg, IF6.58
L-index

#	Paper	IF	Citations
125	Oxynitride-Encapsulated Silver Nanowire Transparent Electrode with Enhanced Thermal, Electrical, and Chemical Stability <i>ACS Applied Materials & Samp; Interfaces</i> , 2022 , 14, 4423-4433	9.5	1
124	Kinetics of Sorption in Hygroscopic Hydrogels Nano Letters, 2022,	11.5	6
123	Upgrading carbonaceous materials: Coal, tar, pitch, and beyond. <i>Matter</i> , 2022 , 5, 430-447	12.7	О
122	Atoms to fibers: Identifying novel processing methods in the synthesis of pitch-based carbon fibers <i>Science Advances</i> , 2022 , 8, eabn1905	14.3	2
121	Emerged Metallicity in Molecular Ferromagnetic Wires. <i>Nano Letters</i> , 2021 , 21, 9746-9753	11.5	2
120	Numerical validation of the dusty-gas model for binary diffusion in low aspect ratio capillaries. <i>Physics of Fluids</i> , 2021 , 33, 121701	4.4	2
119	Atomic Structure of Dislocations and Grain Boundaries in Two-Dimensional PtSe. <i>ACS Nano</i> , 2021 , 15, 16748-16759	16.7	2
118	Screening and Understanding Li Adsorption on Two-Dimensional Metallic Materials by Learning Physics and Physics-Simplified Learning. <i>Jacs Au</i> , 2021 , 1, 1904-1914		3
117	Laser-Induced Cooperative Transition in Molecular Electronic Crystal (Adv. Mater. 39/2021). <i>Advanced Materials</i> , 2021 , 33, 2170309	24	
116	Highly Conductive and Permeable Nanocomposite Ultrafiltration Membranes Using Laser-Reduced Graphene Oxide. <i>Nano Letters</i> , 2021 , 21, 2429-2435	11.5	11
115	High-Pressure-Sintering-Induced Microstructural Engineering for an Ultimate Phonon Scattering of Thermoelectric Half-Heusler Compounds. <i>Small</i> , 2021 , 17, e2102045	11	3
114	Conductive carbonaceous membranes: recent progress and future opportunities. <i>Journal of Materials Chemistry A</i> , 2021 , 9, 3270-3289	13	10
113	Failing Forward: Stability of Transparent Electrodes Based on Metal Nanowire Networks. <i>Advanced Materials</i> , 2021 , 33, e2004356	24	25
112	Silver Nanowire Back Electrode Stabilized with Graphene Oxide Encapsulation for Inverted Semitransparent Organic Solar Cells with Longer Lifetime. <i>ACS Applied Energy Materials</i> , 2021 , 4, 1431-	1441	12
111	Charting lattice thermal conductivity for inorganic crystals and discovering rare earth chalcogenides for thermoelectrics. <i>Energy and Environmental Science</i> , 2021 , 14, 3559-3566	35.4	11
110	Laser-Induced Cooperative Transition in Molecular Electronic Crystal. Advanced Materials, 2021, 33, e21	озроо	1
109	Adsorption-based membranes for air separation using transition metal oxides. <i>Nanoscale Advances</i> , 2021 , 3, 4502-4512	5.1	O

(2020-2020)

108	Toward Designing Highly Conductive Polymer Electrolytes by Machine Learning Assisted Coarse-Grained Molecular Dynamics. <i>Chemistry of Materials</i> , 2020 , 32, 4144-4151	9.6	35	
107	Thermodynamic-driven polychromatic quantum dot patterning for light-emitting diodes beyond eye-limiting resolution. <i>Nature Communications</i> , 2020 , 11, 3040	17.4	22	
106	Quantitative Mapping of Molecular Substituents to Macroscopic Properties Enables Predictive Design of Oligoethylene Glycol-Based Lithium Electrolytes. <i>ACS Central Science</i> , 2020 , 6, 1115-1128	16.8	8	
105	Charge Density and Redox Potential of LiNiO2 Using Ab Initio Diffusion Quantum Monte Carlo. Journal of Physical Chemistry C, 2020 , 124, 5893-5901	3.8	7	
104	Atomic structure and defect dynamics of monolayer lead iodide nanodisks with epitaxial alignment on graphene. <i>Nature Communications</i> , 2020 , 11, 823	17.4	20	
103	Solvent- and Anion-Dependent Li+D2ICoupling Strength and Implications on the Thermodynamics and Kinetics of LiD2 Batteries. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 4953-4967	3.8	16	
102	Blue Light Emitting Defective Nanocrystals Composed of Earth-Abundant Elements. <i>Angewandte Chemie - International Edition</i> , 2020 , 59, 860-867	16.4	11	
101	Blue Light Emitting Defective Nanocrystals Composed of Earth-Abundant Elements. <i>Angewandte Chemie</i> , 2020 , 132, 870-877	3.6	8	
100	Fundamental Insights on Hydration Environment of Boric Acid and Its Role in Separation from Saline Water. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 1438-1445	3.8	17	
99	Effect of Chemical Variations in the Structure of Poly(ethylene oxide)-Based Polymers on Lithium Transport in Concentrated Electrolytes. <i>Chemistry of Materials</i> , 2020 , 32, 121-126	9.6	15	
98	Laser-Induced Graphene from Polyimide and Polyethersulfone Precursors as a Sensing Electrode in Anodic Stripping Voltammetry. <i>ACS Applied Materials & Distripping Voltam</i> 12, 48511-48517	9.5	10	
97	A 3D-printed molecular ferroelectric metamaterial. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 27204-27210	11.5	14	
96	Design Rules for Transparent Push-Pull Electron Acceptors: A Case Study on Perylenediimide Derivatives. <i>Journal of Physical Chemistry Letters</i> , 2020 , 11, 9265-9271	6.4	3	
95	Capillary-fed, thin film evaporation devices. <i>Journal of Applied Physics</i> , 2020 , 128, 130901	2.5	20	
94	Emerging Magnetic Interactions in van der Waals Heterostructures. <i>Nano Letters</i> , 2020 , 20, 7852-7859	11.5	2	
93	Unveiling the phonon scattering mechanisms in half-Heusler thermoelectric compounds. <i>Energy and Environmental Science</i> , 2020 , 13, 5165-5176	35.4	16	
92	Transport-Based Modeling of Bubble Nucleation on Gas Evolving Electrodes. <i>Langmuir</i> , 2020 , 36, 15112	<u>!-4</u> 5118	3 4	
91	Cyclobutene based macrocycles. <i>Materials Chemistry Frontiers</i> , 2020 , 4, 3529-3538	7.8		

90	Importance of Equilibration Method and Sampling for Molecular Dynamics Simulations of Solvent-Lithium-Salt Systems in Lithium-Oxygen Batteries. <i>Journal of Chemical Theory and Computation</i> , 2020 , 16, 7255-7266	6.4	7
89	Laser-Induced Tar-Mediated Sintering of Metals and Refractory Carbides in Air. ACS Nano, 2020, 14, 104	1126. 1 0	420
88	Preserving nanoscale features in polymers during laser induced graphene formation using sequential infiltration synthesis. <i>Nature Communications</i> , 2020 , 11, 3636	17.4	18
87	Low-frequency Raman spectrum of 2D layered perovskites: Local atomistic motion or superlattice modes?. <i>Journal of Chemical Physics</i> , 2020 , 153, 044710	3.9	10
86	Double-Sided Graphene Oxide Encapsulated Silver Nanowire Transparent Electrode with Improved Chemical and Electrical Stability. <i>ACS Applied Materials & Damp; Interfaces</i> , 2020 , 12, 17909-17920	9.5	24
85	Sleep quality, duration, and consistency are associated with better academic performance in college students. <i>Npj Science of Learning</i> , 2019 , 4, 16	6	55
84	Graph dynamical networks for unsupervised learning of atomic scale dynamics in materials. <i>Nature Communications</i> , 2019 , 10, 2667	17.4	43
83	Bandlike Transport in PbS Quantum Dot Superlattices with Quantum Confinement. <i>Journal of Physical Chemistry Letters</i> , 2019 , 10, 3756-3762	6.4	6
82	Revealing the Cluster-Cloud and Its Role in Nanocrystallization. <i>Advanced Materials</i> , 2019 , 31, e180822	5 24	26
81	Correlations from Ion Pairing and the Nernst-Einstein Equation. <i>Physical Review Letters</i> , 2019 , 122, 136	0 9 14	56
80	Laser-sculptured ultrathin transition metal carbide layers for energy storage and energy harvesting applications. <i>Nature Communications</i> , 2019 , 10, 3112	17.4	48
79	Charge Transport in Highly Heterogeneous Natural Carbonaceous Materials. <i>Advanced Functional Materials</i> , 2019 , 29, 1904283	15.6	3
78	Role of solvent-anion charge transfer in oxidative degradation of battery electrolytes. <i>Nature Communications</i> , 2019 , 10, 3360	17.4	26
77	Natural Carbon By-Products for Transparent Heaters: The Case of Steam-Cracker Tar. <i>Advanced Materials</i> , 2019 , 31, e1900331	24	10
76	Striated 2D Lattice with Sub-nm 1D Etch Channels by Controlled Thermally Induced Phase Transformations of PdSe. <i>Advanced Materials</i> , 2019 , 31, e1904251	24	24
75	Tuning the Potential Energy Landscape to Suppress Ostwald Ripening in Surface-Supported Catalyst Systems. <i>Nano Letters</i> , 2019 , 19, 8388-8398	11.5	6
74	Ionic Highways from Covalent Assembly in Highly Conducting and Stable Anion Exchange Membrane Fuel Cells. <i>Journal of the American Chemical Society</i> , 2019 , 141, 18152-18159	16.4	48
73	Inorganic Cage Motion Dominates Excited-State Dynamics in 2D-Layered Perovskites (CxH2x+1NH3)2PbI4 (x = 4 5). <i>Journal of Physical Chemistry C</i> , 2019 , 123, 27904-27916	3.8	24

(2017-2019)

72	Predicting charge density distribution of materials using a local-environment-based graph convolutional network. <i>Physical Review B</i> , 2019 , 100,	3.3	15
71	Role of Structural Defects in the Water Adsorption Properties of MOF-801. <i>Journal of Physical Chemistry C</i> , 2018 , 122, 5545-5552	3.8	37
70	Origins of the Stokes Shift in PbS Quantum Dots: Impact of Polydispersity, Ligands, and Defects. <i>ACS Nano</i> , 2018 , 12, 2838-2845	16.7	32
69	Strain-induced accelerated asymmetric spatial degradation of polymeric vascular scaffolds. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 2640-2645	11.5	31
68	Crystal Graph Convolutional Neural Networks for an Accurate and Interpretable Prediction of Material Properties. <i>Physical Review Letters</i> , 2018 , 120, 145301	7.4	494
67	Ultralong 1D Vacancy Channels for Rapid Atomic Migration during 2D Void Formation in Monolayer MoS. <i>ACS Nano</i> , 2018 , 12, 7721-7730	16.7	38
66	Machine Learning Enabled Computational Screening of Inorganic Solid Electrolytes for Suppression of Dendrite Formation in Lithium Metal Anodes. <i>ACS Central Science</i> , 2018 , 4, 996-1006	16.8	92
65	Optically-regulated thermal energy storage in diverse organic phase-change materials. <i>Chemical Communications</i> , 2018 , 54, 10722-10725	5.8	37
64	Nanoporous Silicon-Assisted Patterning of Monolayer MoS2 with Thermally Controlled Porosity: A Scalable Method for Diverse Applications. <i>ACS Applied Nano Materials</i> , 2018 , 1, 3548-3556	5.6	1
63	Electron-hole separation in ferroelectric oxides for efficient photovoltaic responses. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 6566-6571	11.5	21
62	Hierarchical visualization of materials space with graph convolutional neural networks. <i>Journal of Chemical Physics</i> , 2018 , 149, 174111	3.9	30
61	Polarity governs atomic interaction through two-dimensional materials. <i>Nature Materials</i> , 2018 , 17, 999	- 19 04	107
60	Atomic Structure and Dynamics of Self-Limiting Sub-Nanometer Pores in Monolayer WS. <i>ACS Nano</i> , 2018 , 12, 11638-11647	16.7	24
59	Freestanding Organic Charge-Transfer Conformal Electronics. <i>Nano Letters</i> , 2018 , 18, 4346-4354	11.5	7
58	Optical and Electronic Properties of Two-Dimensional Layered Materials. <i>Nanophotonics</i> , 2017 , 6, 479-4	96 .3	86
57	Enhanced Cell Capture on Functionalized Graphene Oxide Nanosheets through Oxygen Clustering. <i>ACS Nano</i> , 2017 , 11, 1548-1558	16.7	42
56	Atomic Structure and Dynamics of Single Platinum Atom Interactions with Monolayer MoS. <i>ACS Nano</i> , 2017 , 11, 3392-3403	16.7	94
55	Molecularly Engineered Azobenzene Derivatives for High Energy Density Solid-State Solar Thermal Fuels. <i>ACS Applied Materials & Amp; Interfaces</i> , 2017 , 9, 8679-8687	9.5	68

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Ultra-high aspect ratio functional nanoporous silicon via nucleated catalysts. RSC Advances, 2017, 7, 1153,7;11582 54 Engineering Efficient p-Type TMD/Metal Contacts Using Fluorographene as a Buffer Layer. 6 6.4 53 Advanced Electronic Materials, 2017, 3, 1600318 Epitaxial Templating of Two-Dimensional Metal Chloride Nanocrystals on Monolayer Molybdenum 16.7 52 17 Disulfide. ACS Nano, 2017, 11, 6404-6415 Investigation of a Quantum Monte Carlo Protocol To Achieve High Accuracy and High-Throughput 6.4 17 Materials Formation Energies. Journal of Chemical Theory and Computation, 2017, 13, 1943-1951 Nanostructured Bulk-Heterojunction Solar Cells Based on Amorphous Carbon. ACS Energy Letters, 20.1 50 2 **2017**. 2. 882-888 Photoluminescent Arrays of Nanopatterned Monolayer MoS2. Advanced Functional Materials, 2017, 15.6 28 49 27, 1703688 Ultralow thermal conductivity in all-inorganic halide perovskites. *Proceedings of the National* 48 11.5 156 Academy of Sciences of the United States of America, **2017**, 114, 8693-8697 Atomically Flat Zigzag Edges in Monolayer MoS by Thermal Annealing. Nano Letters, 2017, 17, 5502-5507:1.5 47 58 Optically-controlled long-term storage and release of thermal energy in phase-change materials. 46 17.4 144 Nature Communications, 2017, 8, 1446 Atomic Structure and Dynamics of Defects in 2D MoS Bilayers. ACS Omega, 2017, 2, 3315-3324 26 45 3.9 Photon energy storage materials with high energy densities based on diacetylene Bzobenzene 13 62 44 derivatives. Journal of Materials Chemistry A, 2016, 4, 16157-16165 Conformal Electroplating of Azobenzene-Based Solar Thermal Fuels onto Large-Area and Fiber 9.5 27 43 Geometries. ACS Applied Materials & Interfaces, 2016, 8, 26319-26325 Solid-State Solar Thermal Fuels for Heat Release Applications. Advanced Energy Materials, 2016, 6, 15020068 42 74 Optimization of the Thermoelectric Figure of Merit in Crystalline C60 with Intercalation Chemistry. 41 11.5 Nano Letters, 2016, 16, 4203-9 Multilayer Nanoporous Graphene Membranes for Water Desalination. Nano Letters, 2016, 16, 1027-33 11.5 40 242 Torsional Deformations in Subnanometer MoS Interconnecting Wires. Nano Letters, 2016, 16, 1210-7 39 11.5 27 Self-Driven Photodetector and Ambipolar Transistor in Atomically Thin GaTe-MoS2 p-n vdW 38 126 9.5 Heterostructure. ACS Applied Materials & Therfaces, 2016, 8, 2533-9 Catalyst Self-Assembly for Scalable Patterning of Sub 10 nm Ultrahigh Aspect Ratio Nanopores in

Silicon. ACS Applied Materials & Therfaces, 2016, 8, 8043-9

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(2015-2016)

36	Chemically Driven Interfacial Coupling in Charge-Transfer Mediated Functional Superstructures. <i>Nano Letters</i> , 2016 , 16, 2851-9	11.5	11
35	Photovoltaic Performance of PbS Quantum Dots Treated with Metal Salts. <i>ACS Nano</i> , 2016 , 10, 3382-8	16.7	7°
34	Band Engineering by Controlling vdW Epitaxy Growth Mode in 2D Gallium Chalcogenides. <i>Advanced Materials</i> , 2016 , 28, 7375-82	24	23
33	MoS2 Enhanced T-Phase Stabilization and Tunability Through Alloying. <i>Journal of Physical Chemistry Letters</i> , 2016 , 7, 2304-9	6.4	48
32	Rethinking Coal: Thin Films of Solution Processed Natural Carbon Nanoparticles for Electronic Devices. <i>Nano Letters</i> , 2016 , 16, 2951-7	11.5	33
31	Computer calculations across time and length scales in photovoltaic solar cells. <i>Energy and Environmental Science</i> , 2016 , 9, 2197-2218	35.4	22
30	Room Temperature Multiferroicity of Charge Transfer Crystals. ACS Nano, 2015, 9, 9373-9	16.7	35
29	Insight on Tricalcium Silicate Hydration and Dissolution Mechanism from Molecular Simulations. <i>ACS Applied Materials & Discounty of the ACS Applied Materials &</i>	9.5	56
28	Exciton radiative lifetimes in two-dimensional transition metal dichalcogenides. <i>Nano Letters</i> , 2015 , 15, 2794-800	11.5	409
27	High-efficiency thermoelectrics with functionalized graphene. <i>Nano Letters</i> , 2015 , 15, 2830-5	11.5	56
26	Atomistic understandings of reduced graphene oxide as an ultrathin-film nanoporous membrane for separations. <i>Nature Communications</i> , 2015 , 6, 8335	17.4	167
25	Unintended consequences: Why carbonation can dominate in microscale hydration of calcium silicates. <i>Journal of Materials Research</i> , 2015 , 30, 2425-2433	2.5	O
24	Stress effects on the Raman spectrum of an amorphous material: Theory and experiment on a-Si:H. <i>Physical Review B</i> , 2015 , 92,	3.3	23
23	Sound and noisy light: Optical control of phonons in photoswitchable structures. <i>Physical Review B</i> , 2015 , 92,	3.3	1
22	Identifying and Eliminating Emissive Sub-bandgap States in Thin Films of PbS Nanocrystals. <i>Advanced Materials</i> , 2015 , 27, 4481-4486	24	68
21	Functionalized Graphene Superlattice as a Single-Sheet Solar Cell. <i>Advanced Functional Materials</i> , 2015 , 25, 5199-5205	15.6	5
20	Heat Conduction in Nanostructured Materials Predicted by Phonon Bulk Mean Free Path Distribution. <i>Journal of Heat Transfer</i> , 2015 , 137,	1.8	29
19	All-polymeric control of nanoferronics. <i>Science Advances</i> , 2015 , 1, e1501264	14.3	18

18	Scalable enhancement of graphene oxide properties by thermally driven phase transformation. <i>Nature Chemistry</i> , 2014 , 6, 151-8	17.6	261
17	Quantifying the potential of ultra-permeable membranes for water desalination. <i>Energy and Environmental Science</i> , 2014 , 7, 1134-1141	35.4	227
16	Water permeability of nanoporous graphene at realistic pressures for reverse osmosis desalination. Journal of Chemical Physics, 2014 , 141, 074704	3.9	138
15	The Characterization, Stability, and Reactivity of Synthetic Calcium Silicate Surfaces from First Principles. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 15214-15219	3.8	45
14	Templated assembly of photoswitches significantly increases the energy-storage capacity of solar thermal fuels. <i>Nature Chemistry</i> , 2014 , 6, 441-7	17.6	201
13	Origins of hole traps in hydrogenated nanocrystalline and amorphous silicon revealed through machine learning. <i>Physical Review B</i> , 2014 , 89,	3.3	26
12	Novel nanomaterials for water desalination technology 2013,		5
11	High Surface Reactivity and Water Adsorption on NiFe2O4 (111) Surfaces. <i>Journal of Physical Chemistry C</i> , 2013 , 117, 5678-5683	3.8	40
10	Photoswitchable Molecular Rings for Solar-Thermal Energy Storage. <i>Journal of Physical Chemistry Letters</i> , 2013 , 4, 854-60	6.4	54
9	Resonant behavior in heat transfer across weak molecular interfaces. <i>Journal of Applied Physics</i> , 2013 , 114, 234308	2.5	1
8	Solar energy generation in three dimensions. <i>Energy and Environmental Science</i> , 2012 , 5, 6880	35.4	52
7	Mesoscale modeling of phononic thermal conductivity of porous Si: interplay between porosity, morphology and surface roughness. <i>Journal of Computational Electronics</i> , 2012 , 11, 8-13	1.8	29
6	Interplay between intrinsic defects, doping, and free carrier concentration in SrTiO3 thin films. <i>Physical Review B</i> , 2012 , 85,	3.3	42
5	Mpemba-Like Behavior in Carbon Nanotube Resonators. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2011 , 42, 3907-3912	2.3	19
4	Evidence of Conjugation Enhancement in P3HT/SWNT Mixtures for Organic Photovoltaics. <i>Materials Research Society Symposia Proceedings</i> , 2011 , 1286, 56		1
3	Three-dimensional photovoltaics. <i>Applied Physics Letters</i> , 2010 , 96, 071902	3.4	24
2	Charge separation in nanoscale photovoltaic materials: recent insights from first-principles electronic structure theory. <i>Journal of Materials Chemistry</i> , 2010 , 20, 1053-1061		34
1	Mechanism of Thermal Reversal of the (Fulvalene)tetracarbonyldiruthenium Photoisomerization: Toward Molecular Solar Thermal Energy Storage. <i>Angewandte Chemie</i> , 2010 , 122, 9110-9113	3.6	21