

Farzad Mashayek

List of Publications by Year in descending order

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55
papers

1,712
citations

331259

21
h-index

288905

40
g-index

66
all docs

66
docs citations

66
times ranked

2044
citing authors

#	ARTICLE	IF	CITATIONS
1	Lithium Diffusion Mechanism through Solidâ€“Electrolyte Interphase in Rechargeable Lithium Batteries. Journal of Physical Chemistry C, 2019, 123, 10237-10245.	1.5	181
2	Non-Dendritic Zn Electrodeposition Enabled by Zincophilic Graphene Substrates. ACS Applied Materials & Interfaces, 2019, 11, 44077-44089.	4.0	129
3	Analytical description of particle/droplet-laden turbulent flows. Progress in Energy and Combustion Science, 2003, 29, 329-378.	15.8	112
4	Tuning Li ₂ O ₂ Formation Routes by Facet Engineering of MnO ₂ Cathode Catalysts. Journal of the American Chemical Society, 2019, 141, 12832-12838.	6.6	107
5	Synergistic Effect of Graphene Oxide for Impeding the Dendritic Plating of Li. Advanced Functional Materials, 2018, 28, 1705917.	7.8	92
6	Phase-field modeling of solid electrolyte interface (SEI) influence on Li dendritic behavior. Electrochimica Acta, 2018, 265, 609-619.	2.6	88
7	Selective Ionic Transport Pathways in Phosphorene. Nano Letters, 2016, 16, 2240-2247.	4.5	79
8	Highlyâ€“Cyclable Roomâ€“Temperature Phosphorene Polymer Electrolyte Composites for Li Metal Batteries. Advanced Functional Materials, 2020, 30, 1910749.	7.8	78
9	Direct Ink Writing of Polymer Composite Electrolytes with Enhanced Thermal Conductivities. Advanced Functional Materials, 2021, 31, 2006683.	7.8	63
10	Revealing Grain-Boundary-Induced Degradation Mechanisms in Li-Rich Cathode Materials. Nano Letters, 2020, 20, 1208-1217.	4.5	62
11	Non-isothermal dispersed phase of particles in turbulent flow. Journal of Fluid Mechanics, 2003, 475, 205-245.	1.4	57
12	Sodium-Induced Reordering of Atomic Stacks in Black Phosphorus. Chemistry of Materials, 2017, 29, 1350-1356.	3.2	55
13	Computer simulation of the SARS-CoV-2 contamination risk in a large dental clinic. Physics of Fluids, 2021, 33, 033328.	1.6	52
14	Reopening dentistry after COVID-19: Complete suppression of aerosolization in dental procedures by viscoelastic Medusa Gorgo. Physics of Fluids, 2020, 32, 083111.	1.6	49
15	Validation Study of a Multidomain Spectral Code for Simulation of Turbulent Flows. AIAA Journal, 2005, 43, 1256-1264.	1.5	41
16	Stability of Solid-Electrolyte Interphase (SEI) on the Lithium Metal Surface in Lithium Metal Batteries (LMBs). ACS Applied Energy Materials, 2020, 3, 10560-10567.	2.5	37
17	Largeâ€“eddy simulation of compressible flows using a spectral multidomain method. International Journal for Numerical Methods in Fluids, 2009, 61, 311-340.	0.9	29
18	Understanding Zn Electrodeposits Morphology in Secondary Batteries Using Phase-Field Model. Journal of the Electrochemical Society, 2020, 167, 060503.	1.3	28

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19	A COMPARISON OF OUTFLOW BOUNDARY CONDITIONS FOR THE MULTIDOMAIN STAGGERED-GRID SPECTRAL METHOD. Numerical Heat Transfer, Part B: Fundamentals, 2003, 44, 225-251.	0.6	26
20	A compact finite difference method on staggered grid for Navier–Stokes flows. International Journal for Numerical Methods in Fluids, 2006, 52, 867-881.	0.9	25
21	The influence of stress field on Li electrodeposition in Li-metal battery. MRS Communications, 2018, 8, 1285-1291.	0.8	24
22	A Conservative Isothermal Wall Boundary Condition for the Compressible Navier–Stokes Equations. Journal of Scientific Computing, 2007, 30, 177-192.	1.1	21
23	Modeling of Droplet Impact onto Polarized and Nonpolarized Dielectric Surfaces. Langmuir, 2018, 34, 10169-10180.	1.6	21
24	Large-Eddy Simulation of Heavy-Particle Transport in Turbulent Channel Flow. Numerical Heat Transfer, Part B: Fundamentals, 2006, 50, 285-313.	0.6	20
25	Beyond Volume Variation: Anisotropic and Protrusive Lithiation in Bismuth Nanowire. ACS Nano, 2020, 14, 15669-15677.	7.3	18
26	Drop impact onto polarized dielectric surface for controlled coating. Physics of Fluids, 2021, 33, .	1.6	18
27	Breakup mechanisms of electrostatic atomization of corn oil and diesel fuel. Journal of Applied Physics, 2010, 108, .	1.1	17
28	A Deep Learning Approach to Identifying Shock Locations in Turbulent Combustion Tensor Fields. Mathematics and Visualization, 2017, , 375-392.	0.4	15
29	Faradaic reactionsâ€™ mechanisms and parameters in charging of oils. Electrochimica Acta, 2018, 268, 173-186.	2.6	13
30	Competitive Ion Diffusion within Grain Boundary and Grain Interiors in Polycrystalline Electrodes with the Inclusion of Stress Field. Journal of the Electrochemical Society, 2017, 164, A2830-A2839.	1.3	11
31	Evaluation of a Fourth-Order Finite-Volume Compact Scheme for LES with Explicit Filtering. Numerical Heat Transfer, Part B: Fundamentals, 2005, 48, 147-163.	0.6	10
32	Compressibility effects on the transition to turbulence in a spatially developing plane free shear layer. Theoretical and Computational Fluid Dynamics, 2019, 33, 577-602.	0.9	10
33	Effect of atmospheric humidity on electrical conductivity of oil and implications in electrostatic atomization. Fuel, 2019, 253, 283-292.	3.4	10
34	An experimental approach to analyze aerosol and splatter formations due to a dental procedure. Experiments in Fluids, 2021, 62, 202.	1.1	10
35	Compressibility effects on energy exchange mechanisms in a spatially developing plane free shear layer. Journal of Fluid Mechanics, 2021, 910, .	1.4	10
36	Evidence of Faradaic Reactions in Electrostatic Atomizers. Langmuir, 2017, 33, 1375-1384.	1.6	9

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37	A hybrid discontinuous spectral element method and filtered mass density function solver for turbulent reacting flows. Numerical Heat Transfer, Part B: Fundamentals, 2020, 78, 1-29.	0.6	8
38	Application of fully convolutional neural networks for feature extraction in fluid flow. Journal of Visualization, 2021, 24, 771-785.	1.1	8
39	An Introduction to the Lattice Grid. Numerical Heat Transfer, Part B: Fundamentals, 2007, 51, 415-431.	0.6	7
40	Numerical investigation of ionic conductor liquid charging at low to high voltages. Physics of Fluids, 2019, 31, 021201.	1.6	7
41	The particle image velocimetry of vortical electrohydrodynamic flows of oil near a high-voltage electrode tip. Experiments in Fluids, 2021, 62, 1.	1.1	7
42	Energy efficient primary atomization of viscous food oils using an electrostatic method. Journal of Food Engineering, 2018, 237, 27-32.	2.7	6
43	Water interaction with dielectric surface: A combined ab initio modeling and experimental study. Physics of Fluids, 2021, 33, 042012.	1.6	6
44	Air bubble entrapment during drop impact on solid and liquid surfaces. International Journal of Multiphase Flow, 2022, 149, 103974.	1.6	6
45	Plastic recovery and self-healing in longitudinally twinned SiGe nanowires. Nanoscale, 2019, 11, 8959-8966.	2.8	4
46	Electrically driven toroidal Moffatt vortices: experimental observations. Journal of Fluid Mechanics, 2020, 900, .	1.4	4
47	Evolution and Shape of Two-Dimensional Stokesian Drops under the Action of Surface Tension and Electric Field: Linear and Nonlinear Theory and Experiment. Langmuir, 2021, 37, 11429-11446.	1.6	4
48	Dielectrophoretic stretching of drops of silicone oil: Experiments and multi-physical modeling. Physics of Fluids, 2022, 34, .	1.6	4
49	Metamorphosis of trilobite-like drops on a surface: Electrically driven fingering. Physics of Fluids, 2021, 33, 124107.	1.6	4
50	Theoretical and Numerical Study of Formation of Near-Electrode Layers in Ionic Conductor Liquids at High Voltages. Langmuir, 2019, 35, 11080-11088.	1.6	3
51	The Mechanism of Zn Diffusion Through ZnO in Secondary Battery: A Combined Theoretical and Experimental Study. Journal of Physical Chemistry C, 2020, 124, 15730-15738.	1.5	3
52	Step Geometry and Countercurrent Effects in Dump Combustor: Reacting Flow. Numerical Heat Transfer; Part A: Applications, 2008, 54, 569-580.	1.2	2
53	Slow Discharge Theory and Calculation of the Potential Drop across the Compact Layer at High Electrode Voltages. Langmuir, 2019, 35, 14458-14464.	1.6	1
54	Assessment of turbulence models using DNS data of compressible plane free shear layer flow. Journal of Fluid Mechanics, 2022, 931, .	1.4	1

#	ARTICLE	IF	CITATIONS
55	Effect of H2O2 Antiseptic on Dispersal of Cavitation-Induced Microdroplets. Journal of Dental Research, 2021, 100, 1258-1264.	2.5	0