Aashutosh Mistry

List of Publications by Year
in descending order

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50	1,602	304743	315739
papers	citations	22 h-index	38 g-index

53	53	53	1518
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Resolving the Discrepancy in Tortuosity Factor Estimation for Li-Ion Battery Electrodes through Micro-Macro Modeling and Experiment. Journal of the Electrochemical Society, 2018, 165, A3403-A3426.	2.9	133
2	Secondary-Phase Stochastics in Lithium-Ion Battery Electrodes. ACS Applied Materials & Interfaces, 2018, 10, 6317-6326.	8.0	120
3	Editors' Choiceâ€"Mesoscale Analysis of Conductive Binder Domain Morphology in Lithium-Ion Battery Electrodes. Journal of the Electrochemical Society, 2018, 165, E725-E736.	2.9	95
4	How Machine Learning Will Revolutionize Electrochemical Sciences. ACS Energy Letters, 2021, 6, 1422-1431.	17.4	88
5	Mechanistic Understanding of the Role of Evaporation in Electrode Processing. Journal of the Electrochemical Society, 2017, 164, A1616-A1627.	2.9	87
6	Poromechanical effect in the lithiumâ€"sulfur battery cathode. Extreme Mechanics Letters, 2016, 9, 359-370.	4.1	66
7	Electrolyte Confinement Alters Lithium Electrodeposition. ACS Energy Letters, 2019, 4, 156-162.	17.4	65
8	Fingerprinting Redox Heterogeneity in Electrodes during Extreme Fast Charging. Journal of the Electrochemical Society, 2020, 167, 090542.	2.9	64
9	In Operando Detection of the Onset and Mapping of Lithium Plating Regimes during Fast Charging of Lithium-Ion Batteries. ACS Applied Materials & Interfaces, 2020, 12, 30438-30448.	8.0	60
10	Electrochemistry Coupled Mesoscale Complexations in Electrodes Lead to Thermo-Electrochemical Extremes. ACS Applied Materials & Interfaces, 2018, 10, 28644-28655.	8.0	49
11	â€œShuttleâ€•in Polysulfide Shuttle: Friend or Foe?. Journal of Physical Chemistry C, 2018, 122, 23845-23851.	3.1	47
12	Analysis of Long-Range Interaction in Lithium-Ion Battery Electrodes. Journal of Electrochemical Energy Conversion and Storage, 2016, 13, .	2.1	44
13	Molar Volume Mismatch: A Malefactor for Irregular Metallic Electrodeposition with Solid Electrolytes. Journal of the Electrochemical Society, 2020, 167, 082510.	2.9	44
14	Towards Next Generation Lithium-Sulfur Batteries: Non-Conventional Carbon Compartments/Sulfur Electrodes and Multi-Scale Analysis. Journal of the Electrochemical Society, 2016, 163, A730-A741.	2.9	43
15	Precipitationâ€"Microstructure Interactions in the Li-Sulfur Battery Electrode. Journal of Physical Chemistry C, 2017, 121, 26256-26264.	3.1	40
16	Effect of crystallite geometries on electrochemical performance of porous intercalation electrodes by multiscale operando investigation. Nature Materials, 2022, 21, 217-227.	27.5	35
17	Probing Impedance and Microstructure Evolution in Lithiumâ€"Sulfur Battery Electrodes. Journal of Physical Chemistry C, 2017, 121, 21206-21216.	3.1	34
18	Electrochemistry-Mechanics Coupling in Intercalation Electrodes. Journal of the Electrochemical Society, 2018, 165, A1064-A1083.	2.9	32

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19	Quantifying Negative Effects of Carbon-Binder Networks from Electrochemical Performance of Porous Li-Ion Electrodes. Journal of the Electrochemical Society, 2021, 168, 070536.	2.9	31
20	Transport-Geometry Interactions in Li-Ion Cathode Materials Imaged Using X-ray Nanotomography. Journal of the Electrochemical Society, 2017, 164, A1412-A1424.	2.9	28
21	Electrolyte Transport Evolution Dynamics in Lithiumâ€“Sulfur Batteries. Journal of Physical Chemistry C, 2018, 122, 18329-18335.	3.1	27
22	Probing spatial coupling of resistive modes in porous intercalation electrodes through impedance spectroscopy. Physical Chemistry Chemical Physics, 2019, 21, 3805-3813.	2.8	25
23	State of the Art and Future Research Needs for Multiscale Analysis of Li-Ion Cells. Journal of Electrochemical Energy Conversion and Storage, 2017, 14, .	2.1	22
24	Asphericity Can Cause Nonuniform Lithium Intercalation in Battery Active Particles. ACS Energy Letters, 2022, 7, 1871-1879.	17.4	21
25	Quantifying Transport, Geometrical, and Morphological Parameters in Li-Ion Cathode Phases Using X-ray Microtomography. ACS Applied Materials & Interfaces, 2019, 11, 19933-19942.	8.0	20
26	A Minimal Information Set To Enable Verifiable Theoretical Battery Research. ACS Energy Letters, 2021, 6, 3831-3835.	17.4	19
27	Effect of Solvent Motion on Ion Transport in Electrolytes. Journal of the Electrochemical Society, 2022, 169, 040524.	2.9	19
28	Non-equilibrium thermodynamics in electrochemical complexation of Liâ€“oxygen porous electrodes. Journal of Materials Chemistry A, 2019, 7, 8882-8888.	10.3	18
29	Corrosion-Induced Microstructural Variability Affects Transport-Kinetics Interaction in PEM Fuel Cell Catalyst Layers. Journal of the Electrochemical Society, 2020, 167, 084519.	2.9	18
30	Stochasticity at Scales Leads to Lithium Intercalation Cascade. ACS Applied Materials & Interfaces, 2020, 12, 16359-16366.	8.0	18
31	The Transference Number. Energy and Environmental Materials, 2022, 5, 366-369.	12.8	18
32	Electric-Field-Induced Spatially Dynamic Heterogeneity of Solvent Motion and Cation Transference in Electrolytes. Physical Review Letters, 2022, 128, .	7.8	17
33	Materials by Design: Tailored Morphology and Structures of Carbon Anodes for Enhanced Battery Safety. ACS Applied Materials & Interfaces, 2019, 11, 13334-13342.	8.0	16
34	Free Radicals: Making a Case for Battery Modeling. Electrochemical Society Interface, 2020, 29, 30-34.	0.4	16
35	In operando thermal signature probe for lithium-ion batteries. Applied Physics Letters, 2019, 114, .	3.3	14
36	Toward Bottom-Up Understanding of Transport in Concentrated Battery Electrolytes. ACS Central Science, 2022, 8, 880-890.	11.3	14

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37	Deconstructing electrode pore network to learn transport distortion. Physics of Fluids, 2019, 31, 122005.	4.0	12
38	MATBOX: An Open-source Microstructure Analysis Toolbox for microstructure generation, segmentation, characterization, visualization, correlation, and meshing. SoftwareX, 2022, 17, 100915.	2.6	12
39	Axisymmetric model of drop spreading on a horizontal surface. Physics of Fluids, 2015, 27, 092103.	4.0	11
40	Controllable Electrode Stochasticity Self-Heats Lithium-Ion Batteries at Low Temperatures. ACS Applied Materials & Interfaces, 2019, 11, 26764-26769.	8.0	11
41	Perspectiveâ€"Mesoscale Physics in the Catalyst Layer of Proton Exchange Membrane Fuel Cells. Journal of the Electrochemical Society, 2019, 166, F3089-F3092.	2.9	11
42	Do we need an accurate understanding of transport in electrolytes?. Joule, 2021, 5, 2773-2776.	24.0	11
43	On our Limited Understanding of Electrodeposition. MRS Advances, 2019, 4, 2843-2861.	0.9	10
44	Spreading of a pendant liquid drop underneath a textured substrate. Physics of Fluids, 2018, 30, .	4.0	7
45	Ion dynamics in battery materials imaged rapidly. Nature, 2021, 594, 503-504.	27.8	2
46	The 2018 Edward G. Weston Summer Research Fellowship â€" Summary Report: Curvature Effects in Precipitation Dynamics. Electrochemical Society Interface, 2018, 27, 80-81.	0.4	1
47	Spreading of Sessile and Pendant Drops on Partially Wetting Surfaces. Mechanical Engineering Series, 2020, , 41-80.	0.2	1
48	Modeling of electrode, electrolyte, and interfaces of lithium-sulfur batteries. , 2022, , 201-231.		1
49	Leveraging reactions and electrodeposition to fabricate photoanodes for oxygen production. MRS Bulletin, 0, , 1.	3.5	0
50	Examining Solvent Motion in Polarized Concentrated Electrolytes. ECS Meeting Abstracts, 2021, MA2021-02, 177-177.	0.0	0