

# Partha P Mukherjee

## List of Publications by Citations

**Source:** <https://exaly.com/author-pdf/1389537/partha-p-mukherjee-publications-by-citations.pdf>

**Version:** 2024-04-24

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

167  
papers

4,545  
citations

38  
h-index

59  
g-index

183  
ext. papers

5,774  
ext. citations

7.4  
avg, IF

6.54  
L-index

#	Paper	IF	Citations
167	Modeling of Two-Phase Behavior in the Gas Diffusion Medium of PEFCs via Full Morphology Approach. <i>Journal of the Electrochemical Society</i> , <b>2007</b> , 154, B419	3.9	222
166	Mesoscopic modeling of two-phase behavior and flooding phenomena in polymer electrolyte fuel cells. <i>Electrochimica Acta</i> , <b>2009</b> , 54, 6861-6875	6.7	186
165	Challenges in Lithium Metal Anodes for Solid-State Batteries. <i>ACS Energy Letters</i> , <b>2020</b> , 5, 922-934	20.1	171
164	Experimental Analysis of Thermal Runaway and Propagation in Lithium-Ion Battery Modules. <i>Journal of the Electrochemical Society</i> , <b>2015</b> , 162, A1905-A1915	3.9	170
163	Pore-scale modeling of two-phase transport in polymer electrolyte fuel cells—progress and perspective. <i>Energy and Environmental Science</i> , <b>2011</b> , 4, 346-369	35.4	149
162	Formation of Magnesium Dendrites during Electrodeposition. <i>ACS Energy Letters</i> , <b>2019</b> , 4, 375-376	20.1	125
161	Stochastic Microstructure Reconstruction and Direct Numerical Simulation of the PEFC Catalyst Layer. <i>Journal of the Electrochemical Society</i> , <b>2006</b> , 153, A840	3.9	113
160	Characterization of Lithium-Ion Battery Thermal Abuse Behavior Using Experimental and Computational Analysis. <i>Journal of the Electrochemical Society</i> , <b>2015</b> , 162, A2163-A2173	3.9	108
159	Resolving the Discrepancy in Tortuosity Factor Estimation for Li-Ion Battery Electrodes through Micro-Macro Modeling and Experiment. <i>Journal of the Electrochemical Society</i> , <b>2018</b> , 165, A3403-A3426	3.9	85
158	Secondary-Phase Stochastics in Lithium-Ion Battery Electrodes. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2018</b> , 10, 6317-6326	9.5	77
157	Linking void and interphase evolution to electrochemistry in solid-state batteries using operando X-ray tomography. <i>Nature Materials</i> , <b>2021</b> , 20, 503-510	27	75
156	Mechanistic insight into dendrite-SEI interactions for lithium metal electrodes. <i>Journal of Materials Chemistry A</i> , <b>2018</b> , 6, 19664-19671	13	71
155	Direct numerical simulation (DNS) modeling of PEFC electrodes. <i>Electrochimica Acta</i> , <b>2006</b> , 51, 3139-3156	6.7	66
154	Galvanostatic Intermittent Titration and Performance Based Analysis of LiNi <sub>0.5</sub> Co <sub>0.2</sub> Mn <sub>0.3</sub> O <sub>2</sub> Cathode. <i>Journal of the Electrochemical Society</i> , <b>2017</b> , 164, A3380-A3392	3.9	60
153	Stochastic Analysis of Diffusion Induced Damage in Lithium-Ion Battery Electrodes. <i>Journal of the Electrochemical Society</i> , <b>2013</b> , 160, A955-A967	3.9	60
152	Li <sub>2</sub> S Film Formation on Lithium Anode Surface of Li-S batteries. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2016</b> , 8, 4700-8	9.5	59
151	Exploring the efficacy of nanofluids for lithium-ion battery thermal management. <i>International Journal of Heat and Mass Transfer</i> , <b>2017</b> , 112, 779-794	4.9	58

150	Mechanistic Understanding of the Role of Evaporation in Electrode Processing. <i>Journal of the Electrochemical Society</i> , <b>2017</b> , 164, A1616-A1627	3.9	58
149	Editors' Choice Mesoscale Analysis of Conductive Binder Domain Morphology in Lithium-Ion Battery Electrodes. <i>Journal of the Electrochemical Society</i> , <b>2018</b> , 165, E725-E736	3.9	58
148	Direct Numerical Simulation Modeling of Bilayer Cathode Catalyst Layers in Polymer Electrolyte Fuel Cells. <i>Journal of the Electrochemical Society</i> , <b>2007</b> , 154, B1121	3.9	56
147	Optimization of polymer electrolyte fuel cell cathode catalyst layers via direct numerical simulation modeling. <i>Electrochimica Acta</i> , <b>2007</b> , 52, 6367-6377	6.7	54
146	Revealing Charge Transport Mechanisms in LiS for Li-Sulfur Batteries. <i>Journal of Physical Chemistry Letters</i> , <b>2017</b> , 8, 1324-1330	6.4	51
145	Poromechanical effect in the lithium-sulfur battery cathode. <i>Extreme Mechanics Letters</i> , <b>2016</b> , 9, 359-370	3.9	51
144	Influence of Microstructure on Impedance Response in Intercalation Electrodes. <i>Journal of the Electrochemical Society</i> , <b>2015</b> , 162, A1202-A1214	3.9	48
143	Microstructure Evolution in Lithium-Ion Battery Electrode Processing. <i>Journal of the Electrochemical Society</i> , <b>2014</b> , 161, E3248-E3258	3.9	47
142	Mesoscale modeling in electrochemical devices: A critical perspective. <i>Progress in Energy and Combustion Science</i> , <b>2019</b> , 71, 118-142	33.6	47
141	Adsorption of insoluble polysulfides Li <sub>2</sub> S(x) (x = 1, 2) on Li <sub>2</sub> S surfaces. <i>Physical Chemistry Chemical Physics</i> , <b>2015</b> , 17, 9032-9	3.6	46
140	Electrolyte Confinement Alters Lithium Electrodeposition. <i>ACS Energy Letters</i> , <b>2019</b> , 4, 156-162	20.1	46
139	Elucidating Copper Dissolution Phenomenon in Li-Ion Cells under Overdischarge Extremes. <i>Journal of the Electrochemical Society</i> , <b>2018</b> , 165, A1639-A1647	3.9	44
138	Probing the Role of Electrode Microstructure in the Lithium-Ion Battery Thermal Behavior. <i>Journal of the Electrochemical Society</i> , <b>2017</b> , 164, E3146-E3158	3.9	44
137	Mesoscale Complexations in Lithium Electrodeposition. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2018</b> , 10, 26320-26327	9.5	42
136	Electrochemistry Coupled Mesoscale Complexations in Electrodes Lead to Thermo-Electrochemical Extremes. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2018</b> , 10, 28644-28655	9.5	41
135	Non-dimensional analysis of the criticality of Li-ion battery thermal runaway behavior. <i>Journal of Hazardous Materials</i> , <b>2019</b> , 369, 268-278	12.8	40
134	Mesoscale Elucidation of Surface Passivation in the Li-Sulfur Battery Cathode. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 5263-5271	9.5	39
133	Diffusion Induced Damage and Impedance Response in Lithium-Ion Battery Electrodes. <i>Journal of the Electrochemical Society</i> , <b>2014</b> , 161, A2138-A2152	3.9	39

132	Mesoscale elucidation of the influence of mixing sequence in electrode processing. <i>Langmuir</i> , <b>2014</b> , 30, 15102-13	4	39
131	Electrodeposition stability of metal electrodes. <i>Energy Storage Materials</i> , <b>2019</b> , 20, 1-6	19.4	38
130	Probing the morphological influence on solid electrolyte interphase and impedance response in intercalation electrodes. <i>Physical Chemistry Chemical Physics</i> , <b>2015</b> , 17, 9812-27	3.6	38
129	Synchrotron Imaging of Pore Formation in Li Metal Solid-State Batteries Aided by Machine Learning. <i>ACS Applied Energy Materials</i> , <b>2020</b> , 3, 9534-9542	6.1	38
128	Mechanistic Evaluation of Li <sub>x</sub> O <sub>y</sub> Formation on EMnO <sub>2</sub> in Nonaqueous Li-Air Batteries. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2016</b> , 8, 23028-36	9.5	37
127	Fingerprinting Redox Heterogeneity in Electrodes during Extreme Fast Charging. <i>Journal of the Electrochemical Society</i> , <b>2020</b> , 167, 090542	3.9	37
126	Analysis of Long-Range Interaction in Lithium-Ion Battery Electrodes. <i>Journal of Electrochemical Energy Conversion and Storage</i> , <b>2016</b> , 13,	2	37
125	Probing the Thermal Implications in Mechanical Degradation of Lithium-Ion Battery Electrodes. <i>Journal of the Electrochemical Society</i> , <b>2014</b> , 161, A1058-A1070	3.9	36
124	Columnar order in jammed LiFePO <sub>4</sub> cathodes: ion transport catastrophe and its mitigation. <i>Physical Chemistry Chemical Physics</i> , <b>2012</b> , 14, 7040-50	3.6	36
123	Microscale confinement features can affect biofilm formation. <i>Microfluidics and Nanofluidics</i> , <b>2013</b> , 14, 895-902	2.8	36
122	Impedance Evolution Characteristics in Lithium-Ion Batteries. <i>Journal of the Electrochemical Society</i> , <b>2017</b> , 164, A837-A847	3.9	34
121	Towards Next Generation Lithium-Sulfur Batteries: Non-Conventional Carbon Compartments/Sulfur Electrodes and Multi-Scale Analysis. <i>Journal of the Electrochemical Society</i> , <b>2016</b> , 163, A730-A741	3.9	33
120	Mapping mechanisms and growth regimes of magnesium electrodeposition at high current densities. <i>Materials Horizons</i> , <b>2020</b> , 7, 843-854	14.4	33
119	Precipitation-Microstructure Interactions in the Li-Sulfur Battery Electrode. <i>Journal of Physical Chemistry C</i> , <b>2017</b> , 121, 26256-26264	3.8	32
118	In operando signature and quantification of lithium plating. <i>Journal of Materials Chemistry A</i> , <b>2019</b> , 7, 20683-20695	13	32
117	Reduced Order Modeling of Mechanical Degradation Induced Performance Decay in Lithium-Ion Battery Porous Electrodes. <i>Journal of the Electrochemical Society</i> , <b>2015</b> , 162, A1751-A1771	3.9	32
116	Mechano-Electrochemical Interaction Gives Rise to Strain Relaxation in Sn Electrodes. <i>Journal of the Electrochemical Society</i> , <b>2016</b> , 163, A3022-A3035	3.9	32
115	Evaluating silicene as a potential cathode host to immobilize polysulfides in lithium-sulfur batteries. <i>Journal of Coordination Chemistry</i> , <b>2016</b> , 69, 2090-2105	1.6	32

114	BhuttleIn Polysulfide Shuttle: Friend or Foe?. <i>Journal of Physical Chemistry C</i> , <b>2018</b> , 122, 23845-23851	3.8	32
113	Double-Edged Effect of Temperature on Lithium Dendrites. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> , 12, 23931-23938	9.5	30
112	In Operando Detection of the Onset and Mapping of Lithium Plating Regimes during Fast Charging of Lithium-Ion Batteries. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> , 12, 30438-30448	9.5	29
111	Molar Volume Mismatch: A Malefactor for Irregular Metallic Electrodeposition with Solid Electrolytes. <i>Journal of the Electrochemical Society</i> , <b>2020</b> , 167, 082510	3.9	28
110	Surface diffusion manifestation in electrodeposition of metal anodes. <i>Physical Chemistry Chemical Physics</i> , <b>2020</b> , 22, 11286-11295	3.6	28
109	Probing Impedance and Microstructure Evolution in LithiumSulfur Battery Electrodes. <i>Journal of Physical Chemistry C</i> , <b>2017</b> , 121, 21206-21216	3.8	28
108	Mesoscale Elucidation of Solid Electrolyte Interphase Layer Formation in Li-Ion Battery Anode. <i>Journal of Physical Chemistry C</i> , <b>2017</b> , 121, 26233-26240	3.8	28
107	Mechano-Electrochemical Stochastics in High-Capacity Electrodes for Energy Storage. <i>Journal of the Electrochemical Society</i> , <b>2016</b> , 163, A1120-A1137	3.9	27
106	Anode potential controlled charging prevents lithium plating. <i>Journal of Materials Chemistry A</i> , <b>2020</b> , 8, 13077-13085	13	25
105	Fast Charging of Lithium-ion Batteries via Electrode Engineering. <i>Journal of the Electrochemical Society</i> , <b>2020</b> , 167, 090508	3.9	25
104	Vortex generators for active thermal management in lithium-ion battery systems. <i>International Journal of Heat and Mass Transfer</i> , <b>2018</b> , 124, 800-815	4.9	24
103	Mesoscale Analysis of the Electrolyte-Electrode Interface in All-Solid-State Li-Ion Batteries. <i>Journal of the Electrochemical Society</i> , <b>2018</b> , 165, A1857-A1864	3.9	23
102	In Operando Impedance Based Diagnostics of Electrode Kinetics in Li-Ion Pouch Cells. <i>Journal of the Electrochemical Society</i> , <b>2019</b> , 166, A2131-A2141	3.9	22
101	Challenges and Opportunities for Fast Charging of Solid-State Lithium Metal Batteries. <i>ACS Energy Letters</i> , 3734-3749	20.1	22
100	Chemical and mechanical degradation and mitigation strategies for Si anodes. <i>Journal of Power Sources</i> , <b>2019</b> , 419, 208-218	8.9	21
99	Mechano-Electrochemical Model for Acoustic Emission Characterization in Intercalation Electrodes. <i>Journal of the Electrochemical Society</i> , <b>2014</b> , 161, F3123-F3136	3.9	21
98	Transport-Geometry Interactions in Li-Ion Cathode Materials Imaged Using X-ray Nanotomography. <i>Journal of the Electrochemical Society</i> , <b>2017</b> , 164, A1412-A1424	3.9	20
97	Probing spatial coupling of resistive modes in porous intercalation electrodes through impedance spectroscopy. <i>Physical Chemistry Chemical Physics</i> , <b>2019</b> , 21, 3805-3813	3.6	20

96	Overcharge and Aging Analytics of Li-Ion Cells. <i>Journal of the Electrochemical Society</i> , <b>2020</b> , 167, 090547	3.9	20
95	Electrochemistry-Mechanics Coupling in Intercalation Electrodes. <i>Journal of the Electrochemical Society</i> , <b>2018</b> , 165, A1064-A1083	3.9	19
94	Hierarchical Structured Cu/Ni/TiO Nanocomposites as Electrodes for Lithium-Ion Batteries. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 28695-28703	9.5	19
93	Mechanistic Analysis of Mechano-Electrochemical Interaction in Silicon Electrodes with Surface Film. <i>Journal of the Electrochemical Society</i> , <b>2017</b> , 164, A3570-A3581	3.9	19
92	Mechanistic understanding of electrochemical plating and stripping of metal electrodes. <i>Journal of Materials Chemistry A</i> , <b>2019</b> , 7, 4668-4688	13	18
91	Revealing reaction mechanisms of nanoconfined LiS: implications for lithium-sulfur batteries. <i>Physical Chemistry Chemical Physics</i> , <b>2018</b> , 20, 11713-11721	3.6	18
90	Modulating Nanoinhomogeneity at Electrode/Solid Electrolyte Interfaces for Dendrite-Proof Solid-State Batteries and Long-Life Memristors. <i>Advanced Energy Materials</i> , <b>2021</b> , 11, 2003811	21.8	18
89	Evaluation of Combined Active and Passive Thermal Management Strategies for Lithium-Ion Batteries. <i>Journal of Electrochemical Energy Conversion and Storage</i> , <b>2016</b> , 13,	2	18
88	Mesoscale Anatomy of Dead Lithium Formation. <i>Journal of Physical Chemistry C</i> , <b>2020</b> , 124, 6502-6511	3.8	17
87	Electrolyte Transport Evolution Dynamics in Lithium/Sulfur Batteries. <i>Journal of Physical Chemistry C</i> , <b>2018</b> , 122, 18329-18335	3.8	17
86	Probing the influence of superhydrophobicity and mixed wettability on droplet displacement behavior. <i>Microfluidics and Nanofluidics</i> , <b>2014</b> , 17, 657-674	2.8	17
85	Overdischarge and Aging Analytics of Li-Ion Cells. <i>Journal of the Electrochemical Society</i> , <b>2020</b> , 167, 090558	3.9	16
84	An overview of degradation phenomena modeling in lithium-ion battery electrodes. <i>Current Opinion in Chemical Engineering</i> , <b>2016</b> , 13, 82-90	5.4	16
83	Nonequilibrium Phase Transformation and Particle Shape Effect in LiFePO <sub>4</sub> Materials for Li-Ion Batteries. <i>Electrochemical and Solid-State Letters</i> , <b>2011</b> , 14, A143		16
82	Mechanistics of Lithium-Metal Battery Performance by Separator Architecture Design. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> , 12, 556-566	9.5	16
81	Drying Temperature and Capillarity-Driven Crack Formation in Aqueous Processing of Li-Ion Battery Electrodes. <i>ACS Applied Energy Materials</i> , <b>2019</b> , 2, 4464-4476	6.1	15
80	Scaling Relations for Intercalation Induced Damage in Electrodes. <i>Electrochimica Acta</i> , <b>2016</b> , 204, 31-49	6.7	15
79	Mechanistic underpinnings of thermal gradient induced inhomogeneity in lithium plating. <i>Energy Storage Materials</i> , <b>2021</b> , 35, 500-511	19.4	15

78	Hole Polaron Diffusion in the Final Discharge Product of Lithium Sulfur Batteries. <i>Journal of Physical Chemistry C</i> , <b>2017</b> , 121, 17169-17175	3.8	14
77	Wettability effects on contact line dynamics of droplet motion in an inclined channel. <i>Physical Review E</i> , <b>2015</b> , 91, 053006	2.4	14
76	Analysis of droplet dynamics in a partially obstructed confinement in a three-dimensional channel. <i>Physics of Fluids</i> , <b>2018</b> , 30, 102102	4.4	14
75	In operando thermal signature probe for lithium-ion batteries. <i>Applied Physics Letters</i> , <b>2019</b> , 114, 023901	3.4	13
74	Materials by Design: Tailored Morphology and Structures of Carbon Anodes for Enhanced Battery Safety. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2019</b> , 11, 13334-13342	9.5	13
73	Microstructure and Pressure-Driven Electrodeposition Stability in Solid-State Batteries. <i>Cell Reports Physical Science</i> , <b>2021</b> , 2, 100301	6.1	13
72	Stochasticity at Scales Leads to Lithium Intercalation Cascade. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> , 12, 16359-16366	9.5	12
71	Roadblocks in Cation Diffusion Pathways: Implications of Phase Boundaries for Li-Ion Diffusivity in an Intercalation Cathode Material. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2018</b> , 10, 30901-30911	9.5	12
70	Mechano-Electrochemical Interaction and Degradation in Graphite Electrode with Surface Film. <i>Journal of the Electrochemical Society</i> , <b>2018</b> , 165, A2397-A2408	3.9	11
69	Probing the Thermal Safety of Li Metal Batteries. <i>Journal of the Electrochemical Society</i> , <b>2020</b> , 167, 120513	3.3	11
68	Quantifying Transport, Geometrical, and Morphological Parameters in Li-Ion Cathode Phases Using X-ray Microtomography. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2019</b> , 11, 19933-19942	9.5	10
67	Non-equilibrium thermodynamics in electrochemical complexation of Li <sup>+</sup> on oxygen porous electrodes. <i>Journal of Materials Chemistry A</i> , <b>2019</b> , 7, 8882-8888	13	10
66	Controllable Electrode Stochasticity Self-Heats Lithium-Ion Batteries at Low Temperatures. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2019</b> , 11, 26764-26769	9.5	10
65	Degradation-Safety Analytics in Lithium-Ion Cells: Part I. Aging under Charge/Discharge Cycling. <i>Journal of the Electrochemical Society</i> , <b>2020</b> , 167, 160510	3.9	10
64	Modeling of Mesoscale Variability in Biofilm Shear Behavior. <i>PLoS ONE</i> , <b>2016</b> , 11, e0165593	3.7	10
63	Tuning the Splitting Behavior of Droplet in a Bifurcating Channel through Wettability-Capillarity Interaction. <i>Langmuir</i> , <b>2020</b> , 36, 10471-10489	4	10
62	Decreasing the Ion Diffusion Pathways for the Intercalation of Multivalent Cations into One-Dimensional TiS Nanobelt Arrays. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> , 12, 21788-21798	9.5	9
61	Superhierarchical Nickel Vanadia Nanocomposites for Lithium Storage. <i>ACS Applied Energy Materials</i> , <b>2018</b> , 1, 2056-2066	6.1	9



60	Directionality of thermal gradients in lithium-ion batteries dictates diverging degradation modes. <i>Cell Reports Physical Science</i> , <b>2021</b> , 2, 100351	6.1	9
59	Thermo-Electrochemical Stability Analytics of Electrode Materials. <i>Journal of Physical Chemistry C</i> , <b>2019</b> , 123, 30106-30120	3.8	9
58	Deconstructing electrode pore network to learn transport distortion. <i>Physics of Fluids</i> , <b>2019</b> , 31, 122005	4.4	9
57	Perspective Mesoscale Physics in the Catalyst Layer of Proton Exchange Membrane Fuel Cells. <i>Journal of the Electrochemical Society</i> , <b>2019</b> , 166, F3089-F3092	3.9	8
56	Mesoscale Physicochemical Interactions in Lithium Sulfur Batteries: Progress and Perspective. <i>Journal of Electrochemical Energy Conversion and Storage</i> , <b>2018</b> , 15,	2	8
55	Protocol for biofilm streamer formation in a microfluidic device with micro-pillars. <i>Journal of Visualized Experiments</i> , <b>2014</b> ,	1.6	8
54	Simulation of effect of interfacial lithium flux on miscibility gap in non-equilibrium phase transformation of LiFePO <sub>4</sub> particles. <i>Journal of Power Sources</i> , <b>2014</b> , 245, 83-88	8.9	8
53	Stochastics of diffusion induced damage in intercalation materials. <i>Materials Research Express</i> , <b>2016</b> , 3, 104001	1.7	8
52	Probing the Effect of High Energy Ball Milling on the Structure and Properties of LiNi <sub>1/3</sub> Mn <sub>1/3</sub> Co <sub>1/3</sub> O <sub>2</sub> Cathodes for Li-Ion Batteries. <i>Journal of Electrochemical Energy Conversion and Storage</i> , <b>2016</b> , 13,	2	8
51	Mesoscale Interrogation Reveals Mechanistic Origins of Lithium Filaments along Grain Boundaries in Inorganic Solid Electrolytes. <i>Advanced Energy Materials</i> , <b>2022</b> , 12, 2102825	21.8	8
50	Evaporation induced nanoparticle - binder interaction in electrode film formation. <i>Physical Chemistry Chemical Physics</i> , <b>2017</b> , 19, 10051-10061	3.6	7
49	Electrochemical-Reaction-Driven Interfacial Stress in a Solid-Solid Layered Architecture. <i>Physical Review Applied</i> , <b>2019</b> , 11,	4.3	7
48	Morphology-Safety Implications of Interfacial Evolution in Lithium Metal Anodes. <i>Journal of Physical Chemistry C</i> , <b>2020</b> , 124, 16784-16795	3.8	7
47	Non-aqueous Electrode Processing and Construction of Lithium-ion Coin Cells. <i>Journal of Visualized Experiments</i> , <b>2016</b> , e53490	1.6	7
46	Cationic shield mediated electrodeposition stability in metal electrodes. <i>Journal of Materials Chemistry A</i> , <b>2019</b> , 7, 18442-18450	13	7
45	Co-Electrodeposition Mechanism in Rechargeable Metal Batteries. <i>ACS Energy Letters</i> , <b>2021</b> , 6, 2190-2197	70.1	7
44	Corrosion-Induced Microstructural Variability Affects Transport-Kinetics Interaction in PEM Fuel Cell Catalyst Layers. <i>Journal of the Electrochemical Society</i> , <b>2020</b> , 167, 084519	3.9	6
43	Mesoscale Understanding of Lithium Electrodeposition for Intercalation Electrodes. <i>Journal of Physical Chemistry C</i> , <b>2018</b> , 122, 21097-21107	3.8	6



42	Effect of crystallite geometries on electrochemical performance of porous intercalation electrodes by multiscale operando investigation. <i>Nature Materials</i> , <b>2021</b> ,	27	6
41	Quantifying Negative Effects of Carbon-Binder Networks from Electrochemical Performance of Porous Li-Ion Electrodes. <i>Journal of the Electrochemical Society</i> , <b>2021</b> , 168, 070536	3.9	6
40	Mesoscale Evaluation of Titanium Silicide Monolayer as a Cathode Host Material in Lithium-Sulfur Batteries. <i>Jom</i> , <b>2017</b> , 69, 1532-1536	2.1	5
39	Mesoscale Elucidation of Self-Discharge-Induced Performance Decay in Lithium-Sulfur Batteries. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2019</b> , 11, 13326-13333	9.5	5
38	Mechano-Electrochemical Interaction in Solid-State Lithium Batteries. <i>Journal of the Electrochemical Society</i> , <b>2020</b> , 167, 080513	3.9	5
37	Effect of electrode crosstalk on heat release in lithium-ion batteries under thermal abuse scenarios. <i>Energy Storage Materials</i> , <b>2021</b> , 44, 326-326	19.4	5
36	Preventing lithium plating under extremes: an untold tale of two electrodes. <i>Journal of Materials Chemistry A</i> , <b>2021</b> , 9, 17249-17260	13	5
35	Mesoscale understanding of capillarity driven two-phase flow in a packed bed architecture. <i>International Journal of Heat and Mass Transfer</i> , <b>2019</b> , 136, 116-127	4.9	4
34	Mechanistic Analysis of Microstructural Attributes to Lithium Plating in Fast Charging. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> , 12, 55795-55808	9.5	4
33	Plating energy as a universal descriptor to classify accelerated cell failure under operational extremes. <i>Cell Reports Physical Science</i> , <b>2022</b> , 3, 100720	6.1	4
32	Three-electrode Coin Cell Preparation and Electrodeposition Analytics for Lithium-ion Batteries. <i>Journal of Visualized Experiments</i> , <b>2018</b> ,	1.6	4
31	In Operando XANES Imaging of High Capacity Intermetallic Anodes for Lithium Ion Batteries. <i>Journal of the Electrochemical Society</i> , <b>2020</b> , 167, 040523	3.9	3
30	Probing the influence of confinement and wettability on droplet displacement behavior: A mesoscale analysis. <i>European Journal of Mechanics, B/Fluids</i> , <b>2019</b> , 75, 327-338	2.4	3
29	Quantifying the unknown impact of segmentation uncertainty on image-based simulations. <i>Nature Communications</i> , <b>2021</b> , 12, 5414	17.4	3
28	Synergistic voltage and electrolyte mediation improves sodiation kinetics in $\beta$ -Sn alloy-anodes. <i>Energy Storage Materials</i> , <b>2021</b> , 43, 305-316	19.4	3
27	Mesoscale elucidation of laser-assisted chemical deposition of Sn nanostructured electrodes. <i>Journal of Applied Physics</i> , <b>2015</b> , 117, 214301	2.5	2
26	Molar Volume Mismatch: A Malefactor for Irregular Metallic Electrodeposition in Solid Electrolytes		2
25	Molar Volume Mismatch: A Malefactor for Irregular Metallic Electrodeposition in Solid Electrolytes		2

24	Optical Microscopy Reveals the Ambient Sodium Sulfur Discharge Mechanism. <i>ACS Sustainable Chemistry and Engineering</i> , <b>2021</b> , 9, 92-100	8.3	2
23	Degradation-Safety Analytics in Lithium-Ion Cells and Modules Part II. Overcharge and External Short Circuit Scenarios. <i>Journal of the Electrochemical Society</i> , <b>2021</b> , 168, 050535	3.9	2
22	Mechanistic Elucidation of Si Particle Morphology on Electrode Performance. <i>Journal of the Electrochemical Society</i> , <b>2019</b> , 166, A3852-A3860	3.9	2
21	Electroanalytical Quantification of Electrolyte Transport Resistance in Porous Electrodes. <i>Journal of the Electrochemical Society</i> , <b>2020</b> , 167, 080510	3.9	2
20	Energetics Dictates Deposition at Metal/Solid Electrolyte Interfaces. <i>Journal of Physical Chemistry C</i> , <b>2021</b> , 125, 2221-2229	3.8	2
19	Two-Phase Dynamics and Hysteresis in the PEM Fuel Cell Catalyst Layer with the Lattice-Boltzmann Method. <i>Journal of the Electrochemical Society</i> , <b>2021</b> , 168, 024521	3.9	2
18	3D-A Versatile Operando Analytics Toolbox in Energy Storage.. <i>ACS Omega</i> , <b>2021</b> , 6, 33284-33292	3.9	2
17	Asphericity Can Cause Nonuniform Lithium Intercalation in Battery Active Particles. <i>ACS Energy Letters</i> , <b>2022</b> , 7, 1871-1879	20.1	2
16	Mesoscopic Modeling of Capillarity-Induced Two-Phase Transport in a Microfluidic Porous Structure. <i>Transport in Porous Media</i> , <b>2018</b> , 122, 673-691	3.1	1
15	Mechanistic Insight into Lithium Electrodeposition in Porous Host Architectures. <i>Journal of Physical Chemistry C</i> , <b>2021</b> , 125, 25369-25375	3.8	1
14	From material properties to multiscale modeling to improve lithium-ion energy storage safety. <i>MRS Bulletin</i> , <b>2021</b> , 46, 402-409	3.2	1
13	Elucidating Lithium Alloying-Induced Degradation Evolution in High-Capacity Electrodes. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2019</b> , 11, 563-577	9.5	1
12	Simplified Pouch Cell Method for 3-Electrode Re-Testing of Harvested Double-Sided Electrodes From Commercial Lithium-Ion Batteries. <i>Journal of Electrochemical Energy Conversion and Storage</i> , <b>2021</b> , 18,	2	1
11	Advancements in extreme fast charging to foster sustainable electrification. <i>One Earth</i> , <b>2022</b> , 5, 216-219	8.1	1
10	Multiscale modeling of physicochemical interactions in lithium-sulfur battery electrodes <b>2022</b> , 123-158		1
9	Probing the Influence of Multiscale Heterogeneity on Effective Properties of Graphite Electrodes.. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2022</b> ,	9.5	0
8	Dead Lithium or back from the Dead. <i>Joule</i> , <b>2022</b> , 6, 291-293	27.8	0
7	Mesoscopic simulation of blob resonance in a model porous pathway. <i>Microfluidics and Nanofluidics</i> , <b>2015</b> , 18, 215-232	2.8	

- 6 Modeling Proton Exchange Membrane Fuel Cell Cathode Catalyst Layers with the Lattice-Boltzmann-Method Framework. *ECS Transactions*, **2019**, 92, 47-59 1
- 5 Mesoscale Interplay in Lithium-Ion Batteries and Beyond. *Jom*, **2017**, 69, 1467-1468 2.1
- 4 Solid-State Batteries: Modulating Nanoinhomogeneity at Electrode/Solid Electrolyte Interfaces for Dendrite-Proof Solid-State Batteries and Long-Life Memristors (Adv. Energy Mater. 16/2021). *Advanced Energy Materials*, **2021**, 11, 2170062 21.8
- 3 Quantifying Sodiation Kinetics in Alloying Tin Electrodes for Sodium-Ion Batteries. *Journal of the Electrochemical Society*, **2021**, 168, 090550 3.9
- 2 Performance degradation modeling in silicon anodes **2022**, 299-329
- 1 Celebrating Women in Electrochemical Sciences and Engineering (WIESE). *ACS Energy Letters*, 2105-2112 20.1