

Thomas M M Heenan

List of Publications by Citations

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173
papers

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192
ext. papers

6,102
ext. citations

10.5
avg, IF

6
L-index

#	Paper	IF	Citations
173	In-operando high-speed tomography of lithium-ion batteries during thermal runaway. <i>Nature Communications</i> , 2015 , 6, 6924	17.4	346
172	Tuning the interlayer spacing of graphene laminate films for efficient pore utilization towards compact capacitive energy storage. <i>Nature Energy</i> , 2020 , 5, 160-168	62.3	205
171	Local Tortuosity Inhomogeneities in a Lithium Battery Composite Electrode. <i>Journal of the Electrochemical Society</i> , 2011 , 158, A1393	3.9	179
170	Characterising thermal runaway within lithium-ion cells by inducing and monitoring internal short circuits. <i>Energy and Environmental Science</i> , 2017 , 10, 1377-1388	35.4	119
169	Three-dimensional characterization of electrodeposited lithium microstructures using synchrotron X-ray phase contrast imaging. <i>Chemical Communications</i> , 2015 , 51, 266-8	5.8	108
168	Tortuosity in electrochemical devices: a review of calculation approaches. <i>International Materials Reviews</i> , 2018 , 63, 47-67	16.1	106
167	3D microstructure design of lithium-ion battery electrodes assisted by X-ray nano-computed tomography and modelling. <i>Nature Communications</i> , 2020 , 11, 2079	17.4	96
166	Multi-Scale Investigations of $\text{Ni}_0.25\text{V}_2\text{O}_5 \cdot \text{H}_2\text{O}$ Cathode Materials in Aqueous Zinc-Ion Batteries. <i>Advanced Energy Materials</i> , 2020 , 10, 2000058	21.8	92
165	Investigating lithium-ion battery materials during overcharge-induced thermal runaway: an operando and multi-scale X-ray CT study. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 30912-30919	3.6	91
164	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> , 2018 , 165, A3403-A3426	3.9	85
163	Non-uniform temperature distribution in Li-ion batteries during discharge [A combined thermal imaging, X-ray micro-tomography and electrochemical impedance approach. <i>Journal of Power Sources</i> , 2014 , 252, 51-57	8.9	82
162	Quantifying the anisotropy and tortuosity of permeable pathways in clay-rich mudstones using models based on X-ray tomography. <i>Scientific Reports</i> , 2017 , 7, 14838	4.9	78
161	Lithiation-Induced Dilation Mapping in a Lithium-Ion Battery Electrode by 3D X-Ray Microscopy and Digital Volume Correlation. <i>Advanced Energy Materials</i> , 2014 , 4, 1300506	21.8	72
160	Spatial dynamics of lithiation and lithium plating during high-rate operation of graphite electrodes. <i>Energy and Environmental Science</i> , 2020 , 13, 2570-2584	35.4	63
159	Mechanisms and effects of mechanical compression and dimensional change in polymer electrolyte fuel cells [A review. <i>Journal of Power Sources</i> , 2015 , 284, 305-320	8.9	61
158	Free-standing supercapacitors from Kraft lignin nanofibers with remarkable volumetric energy density. <i>Chemical Science</i> , 2019 , 10, 2980-2988	9.4	60
157	Identifying the Cause of Rupture of Li-Ion Batteries during Thermal Runaway. <i>Advanced Science</i> , 2018 , 5, 1700369	13.6	59

156	Effect of gas diffusion layer properties on water distribution across air-cooled, open-cathode polymer electrolyte fuel cells: A combined ex-situ X-ray tomography and in-operando neutron imaging study. <i>Electrochimica Acta</i> , 2016 , 211, 478-487	6.7	58
155	Quantifying Bulk Electrode Strain and Material Displacement within Lithium Batteries via High-Speed Operando Tomography and Digital Volume Correlation. <i>Advanced Science</i> , 2016 , 3, 1500332	13.6	55
154	Tracking Internal Temperature and Structural Dynamics during Nail Penetration of Lithium-Ion Cells. <i>Journal of the Electrochemical Society</i> , 2017 , 164, A3285-A3291	3.9	54
153	Modelling and experiments to identify high-risk failure scenarios for testing the safety of lithium-ion cells. <i>Journal of Power Sources</i> , 2019 , 417, 29-41	8.9	53
152	4D imaging of lithium-batteries using correlative neutron and X-ray tomography with a virtual unrolling technique. <i>Nature Communications</i> , 2020 , 11, 777	17.4	52
151	Developments in X-ray tomography characterization for electrochemical devices. <i>Materials Today</i> , 2019 , 31, 69-85	21.8	50
150	Visualizing the Carbon Binder Phase of Battery Electrodes in Three Dimensions. <i>ACS Applied Energy Materials</i> , 2018 , 1, 3702-3710	6.1	50
149	Spatially Resolving Lithiation in Silicon-Graphite Composite Electrodes via in Situ High-Energy X-ray Diffraction Computed Tomography. <i>Nano Letters</i> , 2019 , 19, 3811-3820	11.5	49
148	Identifying the Origins of Microstructural Defects Such as Cracking within Ni-Rich NMC811 Cathode Particles for Lithium-Ion Batteries. <i>Advanced Energy Materials</i> , 2020 , 10, 2002655	21.8	49
147	Spatial quantification of dynamic inter and intra particle crystallographic heterogeneities within lithium ion electrodes. <i>Nature Communications</i> , 2020 , 11, 631	17.4	48
146	Palladium alloys used as electrocatalysts for the oxygen reduction reaction. <i>Energy and Environmental Science</i> , 2021 , 14, 2639-2669	35.4	47
145	Exploring 3D microstructural evolution in Li-Sulfur battery electrodes using in-situ X-ray tomography. <i>Scientific Reports</i> , 2016 , 6, 35291	4.9	45
144	Characterising the structural properties of polymer separators for lithium-ion batteries in 3D using phase contrast X-ray microscopy. <i>Journal of Power Sources</i> , 2016 , 333, 184-192	8.9	45
143	Microstructural degradation of silicon electrodes during lithiation observed via operando X-ray tomographic imaging. <i>Journal of Power Sources</i> , 2017 , 342, 904-912	8.9	44
142	The application of hierarchical structures in energy devices: new insights into the design of solid oxide fuel cells with enhanced mass transport. <i>Energy and Environmental Science</i> , 2018 , 11, 2390-2403	35.4	43
141	Correlation between triple phase boundary and the microstructure of Solid Oxide Fuel Cell anodes: The role of composition, porosity and Ni densification. <i>Journal of Power Sources</i> , 2017 , 365, 210-219	8.9	41
140	A study of the effect of water management and electrode flooding on the dimensional change of polymer electrolyte fuel cells. <i>Journal of Power Sources</i> , 2013 , 242, 70-77	8.9	40
139	Cathode Design for Aqueous Rechargeable Multivalent Ion Batteries: Challenges and Opportunities. <i>Advanced Functional Materials</i> , 2021 , 31, 2010445	15.6	40

138	Synergistic relationship between the three-dimensional nanostructure and electrochemical performance in biocarbon supercapacitor electrode materials. <i>Sustainable Energy and Fuels</i> , 2018 , 2, 772-785	5.8	39
137	Emerging X-ray imaging technologies for energy materials. <i>Materials Today</i> , 2020 , 34, 132-147	21.8	38
136	Laser-preparation of geometrically optimised samples for X-ray nano-CT. <i>Journal of Microscopy</i> , 2017 , 267, 384-396	1.9	37
135	Four-Dimensional Studies of Morphology Evolution in Lithium-Sulfur Batteries. <i>ACS Applied Energy Materials</i> , 2018 , 1, 5090-5100	6.1	36
134	The Hydro-electro-thermal Performance of Air-cooled, Open-cathode Polymer Electrolyte Fuel Cells: Combined Localised Current Density, Temperature and Water Mapping. <i>Electrochimica Acta</i> , 2015 , 180, 307-315	6.7	36
133	Comparison of three-dimensional analysis and stereological techniques for quantifying lithium-ion battery electrode microstructures. <i>Journal of Microscopy</i> , 2016 , 263, 280-92	1.9	36
132	The use of contrast enhancement techniques in X-ray imaging of lithium-ion battery electrodes. <i>Chemical Engineering Science</i> , 2016 , 154, 27-33	4.4	35
131	Spatially resolved ultrasound diagnostics of Li-ion battery electrodes. <i>Physical Chemistry Chemical Physics</i> , 2019 , 21, 6354-6361	3.6	34
130	Microstructural Evolution of Battery Electrodes During Calendering. <i>Joule</i> , 2020 , 4, 2746-2768	27.8	34
129	System-level electro-thermal optimisation of air-cooled open-cathode polymer electrolyte fuel cells: Air blower parasitic load and schemes for dynamic operation. <i>International Journal of Hydrogen Energy</i> , 2015 , 40, 16760-16766	6.7	33
128	2021 roadmap on lithium sulfur batteries. <i>JPhys Energy</i> , 2021 , 3, 031501	4.9	32
127	The effect of non-uniform compression and flow-field arrangements on membrane electrode assemblies - X-ray computed tomography characterisation and effective parameter determination. <i>Journal of Power Sources</i> , 2019 , 426, 97-110	8.9	31
126	Investigating the effect of thermal gradients on stress in solid oxide fuel cell anodes using combined synchrotron radiation and thermal imaging. <i>Journal of Power Sources</i> , 2015 , 288, 473-481	8.9	30
125	Operando Electrochemical Atomic Force Microscopy of Solid-Electrolyte Interphase Formation on Graphite Anodes: The Evolution of SEI Morphology and Mechanical Properties. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 35132-35141	9.5	30
124	Design of next-generation ceramic fuel cells and real-time characterization with synchrotron X-ray diffraction computed tomography. <i>Nature Communications</i> , 2019 , 10, 1497	17.4	29
123	Core-shell TiO ₂ @C ultralong nanotubes with enhanced adsorption of antibiotics. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 19081-19086	13	28
122	Reduction Dynamics of Doped Ceria, Nickel Oxide, and Cermet Composites Probed Using In Situ Raman Spectroscopy. <i>Advanced Science</i> , 2016 , 3, 1500146	13.6	28
121	Defected vanadium bronzes as superb cathodes in aqueous zinc-ion batteries. <i>Nanoscale</i> , 2020 , 12, 20638-20647	13.7	27

120	Superior Multifunctional Activity of Nanoporous Carbons with Widely Tunable Porosity: Enhanced Storage Capacities for Carbon-Dioxide, Hydrogen, Water, and Electric Charge. <i>Advanced Energy Materials</i> , 2020 , 10, 1903649	21.8	26
119	3D-Printed Structural Pseudocapacitors. <i>Advanced Materials Technologies</i> , 2016 , 1, 1600167	6.8	26
118	Evolution of Electrochemical Cell Designs for In-Situ and Operando 3D Characterization. <i>Materials</i> , 2018 , 11,	3.5	26
117	Crack detection in lithium-ion cells using machine learning. <i>Computational Materials Science</i> , 2017 , 136, 297-305	3.2	25
116	A Structure and Durability Comparison of Membrane Electrode Assembly Fabrication Methods: Self-Assembled Versus Hot-Pressed. <i>Journal of the Electrochemical Society</i> , 2018 , 165, F3045-F3052	3.9	25
115	Three-Phase Segmentation of Solid Oxide Fuel Cell Anode Materials Using Lab Based X-ray Nano-Computed Tomography. <i>Fuel Cells</i> , 2017 , 17, 75-82	2.9	24
114	Porous Metal-Organic Frameworks for Enhanced Performance Silicon Anodes in Lithium-Ion Batteries. <i>Chemistry of Materials</i> , 2019 , 31, 4156-4165	9.6	23
113	Elucidating the Sodiation Mechanism in Hard Carbon by Operando Raman Spectroscopy. <i>ACS Applied Energy Materials</i> , 2020 , 3, 7474-7484	6.1	23
112	A universal pH range and a highly efficient Mo ₂ C-based electrocatalyst for the hydrogen evolution reaction. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 19879-19886	13	23
111	Insights into the Effect of Structural Heterogeneity in Carbonized Electrospun Fibrous Mats for Flow Battery Electrodes by X-Ray Tomography. <i>Small</i> , 2018 , 14, 1703616	11	22
110	The Use of Graphitic Carbon Nitride Based Composite Anodes for Lithium-Ion Battery Applications. <i>Electroanalysis</i> , 2015 , 27, 2614-2619	3	22
109	Design of a miniature flow cell for in situ x-ray imaging of redox flow batteries. <i>Journal Physics D: Applied Physics</i> , 2016 , 49, 434002	3	22
108	Multi-length scale tomography for the determination and optimization of the effective microstructural properties in novel hierarchical solid oxide fuel cell anodes. <i>Journal of Power Sources</i> , 2017 , 367, 177-186	8.9	21
107	Virtual unrolling of spirally-wound lithium-ion cells for correlative degradation studies and predictive fault detection. <i>Sustainable Energy and Fuels</i> , 2019 , 3, 2972-2976	5.8	20
106	Optimal integrated energy systems design incorporating variable renewable energy sources. <i>Computers and Chemical Engineering</i> , 2016 , 95, 21-37	4	20
105	The application of 3D imaging techniques, simulation and diffusion experiments to explore transport properties in porous oxygen transport membrane support materials. <i>Solid State Ionics</i> , 2016 , 288, 315-321	3.3	20
104	High-Performance Zinc-Air Batteries with Scalable Metal-Organic Frameworks and Platinum Carbon Black Bifunctional Catalysts. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 42696-42703	9.5	19
103	Three-dimensional image based modelling of transport parameters in lithium-sulfur batteries. <i>Physical Chemistry Chemical Physics</i> , 2019 , 21, 4145-4154	3.6	17

102	Using In-Situ Laboratory and Synchrotron-Based X-ray Diffraction for Lithium-Ion Batteries Characterization: A Review on Recent Developments. <i>Condensed Matter</i> , 2020 , 5, 75	1.8	17
101	High-Density Lignin-Derived Carbon Nanofiber Supercapacitors with Enhanced Volumetric Energy Density. <i>Advanced Science</i> , 2021 , 8, e2100016	13.6	17
100	Ex-situ characterisation of water droplet dynamics on the surface of a fuel cell gas diffusion layer through wettability analysis and thermal characterisation. <i>International Journal of Hydrogen Energy</i> , 2017 , 42, 4404-4414	6.7	16
99	X-ray Micro-Computed Tomography of Polymer Electrolyte Fuel Cells: What is the Representative Elementary Area?. <i>Journal of the Electrochemical Society</i> , 2020 , 167, 013545	3.9	16
98	Quantitative Relationships Between Pore Tortuosity, Pore Topology, and Solid Particle Morphology Using a Novel Discrete Particle Size Algorithm. <i>Journal of the Electrochemical Society</i> , 2020 , 167, 100513	3.9	16
97	Microstructural Analysis of the Effects of Thermal Runaway on Li-Ion and Na-Ion Battery Electrodes. <i>Journal of Electrochemical Energy Conversion and Storage</i> , 2018 , 15,	2	16
96	X-ray Nano Computed Tomography of Electrospun Fibrous Mats as Flow Battery Electrodes. <i>Energy Technology</i> , 2018 , 6, 2488-2500	3.5	16
95	The Imaging Resolution and Knudsen Effect on the Mass Transport of Shale Gas Assisted by Multi-length Scale X-Ray Computed Tomography. <i>Scientific Reports</i> , 2019 , 9, 19465	4.9	16
94	A Dilatometric Study of Graphite Electrodes during Cycling with X-ray Computed Tomography. <i>Journal of the Electrochemical Society</i> , 2021 , 168, 010507	3.9	16
93	Exploring cycling induced crystallographic change in NMC with X-ray diffraction computed tomography. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 17814-17823	3.6	15
92	Resolving Li-Ion Battery Electrode Particles Using Rapid Lab-Based X-Ray Nano-Computed Tomography for High-Throughput Quantification. <i>Advanced Science</i> , 2020 , 7, 2000362	13.6	15
91	Investigating high-performance sulfur/metal nanocomposites for lithium batteries. <i>Sustainable Energy and Fuels</i> , 2020 , 4, 2907-2923	5.8	14
90	Examining the Cycling Behaviour of Li-Ion Batteries Using Ultrasonic Time-of-Flight Measurements. <i>Journal of Power Sources</i> , 2019 , 444, 227318	8.9	14
89	3D Imaging of Lithium Protrusions in Solid-State Lithium Batteries using X-Ray Computed Tomography. <i>Advanced Functional Materials</i> , 2021 , 31, 2007564	15.6	14
88	Engineering Catalyst Layers for Next-Generation Polymer Electrolyte Fuel Cells: A Review of Design, Materials, and Methods. <i>Advanced Energy Materials</i> , 2021 , 11, 2101025	21.8	14
87	A spinal organ of proprioception for integrated motor action feedback. <i>Neuron</i> , 2021 , 109, 1188-1201.e7	13.9	13
86	Three-Dimensional Visualization of Conductive Domains in Battery Electrodes with Contrast-Enhancing Nanoparticles. <i>ACS Applied Energy Materials</i> , 2018 , 1, 4479-4484	6.1	13
85	Correlative acoustic time-of-flight spectroscopy and X-ray imaging to investigate gas-induced delamination in lithium-ion pouch cells during thermal runaway. <i>Journal of Power Sources</i> , 2020 , 470, 228039	8.9	12

84	Examining the effect of the secondary flow-field on polymer electrolyte fuel cells using X-ray computed radiography and computational modelling. <i>International Journal of Hydrogen Energy</i> , 2019 , 44, 1139-1150	6.7	12
83	Effect of cell compression on the water dynamics of a polymer electrolyte fuel cell using in-plane and through-plane in-operando neutron radiography. <i>Journal of Power Sources</i> , 2019 , 439, 227074	8.9	11
82	Thermally Driven SOFC Degradation in 4D: Part I. Microscale. <i>Journal of the Electrochemical Society</i> , 2018 , 165, F921-F931	3.9	11
81	Probing Heterogeneity in Li-Ion Batteries with Coupled Multiscale Models of Electrochemistry and Thermal Transport using Tomographic Domains. <i>Journal of the Electrochemical Society</i> , 2020 , 167, 110538	3.9	11
80	Facile Fabrication of Robust Hydrogen Evolution Electrodes under High Current Densities via Pt@Cu Interactions. <i>Advanced Functional Materials</i> , 2105579	15.6	11
79	Sodium Superionic Conductors (NASICONs) as Cathode Materials for Sodium-Ion Batteries. <i>Electrochemical Energy Reviews</i> , 1	29.3	11
78	A novel polymer electrolyte fuel cell flow-field: The through-plane array. <i>Journal of Power Sources</i> , 2019 , 442, 227218	8.9	10
77	X-ray Nano-computed Tomography of Electrochemical Conversion in Lithium-ion Battery. <i>ChemSusChem</i> , 2019 , 12, 3550-3561	8.3	10
76	Dendritic silver self-assembly in molten-carbonate membranes for efficient carbon dioxide capture. <i>Energy and Environmental Science</i> , 2020 , 13, 1766-1775	35.4	10
75	Identifying Defects in Li-Ion Cells Using Ultrasound Acoustic Measurements. <i>Journal of the Electrochemical Society</i> , 2020 , 167, 120530	3.9	10
74	An Advanced Microstructural and Electrochemical Datasheet on 18650 Li-Ion Batteries with Nickel-Rich NMC811 Cathodes and Graphite-Silicon Anodes. <i>Journal of the Electrochemical Society</i> , 2020 , 167, 140530	3.9	10
73	Thermally Driven SOFC Degradation in 4D: Part II. Macroscale. <i>Journal of the Electrochemical Society</i> , 2018 , 165, F932-F941	3.9	10
72	Multi-length scale microstructural design of lithium-ion battery electrodes for improved discharge rate performance. <i>Energy and Environmental Science</i> ,	35.4	10
71	Microstructure analysis and image-based modelling of face masks for COVID-19 virus protection. <i>Communications Materials</i> , 2021 , 2,	6	9
70	Recent advances in acoustic diagnostics for electrochemical power systems. <i>JPhys Energy</i> , 2021 , 3, 032011	11.9	9
69	Dendrite suppression by anode polishing in zinc-ion batteries. <i>Journal of Materials Chemistry A</i> , 2021 , 9, 15355-15362	13	9
68	Oxygen evolution catalysts under proton exchange membrane conditions in a conventional three electrode cell vs. electrolyser device: a comparison study and a 3D-printed electrolyser for academic labs. <i>Journal of Materials Chemistry A</i> , 2021 , 9, 9113-9123	13	9
67	Probing the Structure-Performance Relationship of Lithium-Ion Battery Cathodes Using Pore-Networks Extracted from Three-Phase Tomograms. <i>Journal of the Electrochemical Society</i> , 2020 , 167, 040528	3.9	8

66	A novel high-temperature furnace for combined in situ synchrotron X-ray diffraction and infrared thermal imaging to investigate the effects of thermal gradients upon the structure of ceramic materials. <i>Journal of Synchrotron Radiation</i> , 2014 , 21, 1134-9	2.4	8
65	In situ studies of materials for high temperature CO capture and storage. <i>Faraday Discussions</i> , 2016 , 192, 217-240	3.6	8
64	Characterizing Batteries by In Situ Electrochemical Atomic Force Microscopy: A Critical Review. <i>Advanced Energy Materials</i> , 2021 , 11, 2101518	21.8	8
63	Design of Scalable, Next-Generation Thick Electrodes: Opportunities and Challenges. <i>ACS Nano</i> , 2021 ,	16.7	8
62	Thermal Runaway: Identifying the Cause of Rupture of Li-Ion Batteries during Thermal Runaway (Adv. Sci. 1/2018). <i>Advanced Science</i> , 2018 , 5, 1870003	13.6	7
61	A Multiscale X-Ray Tomography Study of the Cycled-Induced Degradation in Magnesium-Sulfur Batteries.. <i>Small Methods</i> , 2021 , 5, e2001193	12.8	7
60	Thermo-chemical conversion of carbonaceous wastes for CNT and hydrogen production: a review. <i>Sustainable Energy and Fuels</i> , 2021 , 5, 4173-4208	5.8	7
59	Editors'Choice D Neutron and X-ray Tomography Studies of High Energy Density Primary Batteries: Part I. Dynamic Studies of LiSOCl ₂ during Discharge. <i>Journal of the Electrochemical Society</i> , 2020 , 167, 130545	3.9	6
58	A Review of Lithium-Ion Battery Electrode Drying: Mechanisms and Metrology. <i>Advanced Energy Materials</i> , 2102233	21.8	6
57	High-performance fuel cell designed for coking-resistance and efficient conversion of waste methane to electrical energy. <i>Energy and Environmental Science</i> , 2020 , 13, 1879-1887	35.4	6
56	Study of H ₂ S Removal Capability from Simulated Biogas by Using Waste-Derived Adsorbent Materials. <i>Processes</i> , 2020 , 8, 1030	2.9	6
55	Developments in Dilatometry for Characterisation of Electrochemical Devices. <i>Batteries and Supercaps</i> , 2021 , 4, 1378-1396	5.6	6
54	Flexible all-solid-state supercapacitors based on PPy/rGO nanocomposite on cotton fabric. <i>Nanotechnology</i> , 2021 , 32,	3.4	6
53	Self-activated cathode substrates in rechargeable zinc-air batteries. <i>Energy Storage Materials</i> , 2021 , 35, 530-537	19.4	6
52	Bragg Coherent Diffraction Imaging of LiNiMnCoO Primary Particles within Commercially Printed NMC811 Electrode Sheets. <i>ACS Nano</i> , 2021 , 15, 1321-1330	16.7	6
51	Current Imbalance in Parallel Battery Strings Measured Using a Hall-Effect Sensor Array. <i>Energy Technology</i> , 2021 , 9, 2001014	3.5	6
50	Imaging fascicular organization of rat sciatic nerves with fast neural electrical impedance tomography. <i>Nature Communications</i> , 2020 , 11, 6241	17.4	5
49	In situ visualization by X-Ray computed tomography on sulfur stabilization and lithium polysulfides immobilization in S@HCS/MnO cathode. <i>Energy Storage Materials</i> , 2020 , 31, 164-171	19.4	5

48	Multiscale tomographic analysis of the thermal failure of Na-Ion batteries. <i>Journal of Power Sources</i> , 2018 , 400, 360-368	8.9	5
47	A Lab-Based Multi-Length Scale Approach to Characterize Lithium-Ion Cathode Materials. <i>ECS Transactions</i> , 2017 , 77, 1119-1124	1	5
46	Zinc-Ion Batteries: Multi-Scale Investigations of $\text{Ni}_0.25\text{V}_2\text{O}_5 \cdot \text{H}_2\text{O}$ Cathode Materials in Aqueous Zinc-Ion Batteries (Adv. Energy Mater. 15/2020). <i>Advanced Energy Materials</i> , 2020 , 10, 2070068	21.8	5
45	Towards a mechanistic understanding of particle shrinkage during biomass pyrolysis via synchrotron X-ray microtomography and in-situ radiography. <i>Scientific Reports</i> , 2021 , 11, 2656	4.9	5
44	Disentangling water, ion and polymer dynamics in an anion exchange membrane.. <i>Nature Materials</i> , 2022 ,	27	5
43	A novel molten-salt electrochemical cell for investigating the reduction of uranium dioxide to uranium metal by lithium using in situ synchrotron radiation. <i>Journal of Synchrotron Radiation</i> , 2017 , 24, 439-444	2.4	4
42	Electrochemical Reduction of UO_2 to U in LiCl-KCl Molten Salt Eutectic Using the Fluidized Cathode Process. <i>Journal of the Electrochemical Society</i> , 2017 , 164, H5280-H5285	3.9	4
41	Use of X-ray computed tomography for understanding localised, along-the-channel degradation of polymer electrolyte fuel cells. <i>Electrochimica Acta</i> , 2020 , 352, 136464	6.7	4
40	4D Bragg Edge Tomography of Directional Ice Templated Graphite Electrodes. <i>Journal of Imaging</i> , 2020 , 6,	3.1	4
39	Porous 3D graphene aerogel co-doped with nitrogen and sulfur for high-performance supercapacitors. <i>Nanotechnology</i> , 2021 , 32, 195405	3.4	4
38	The multiscale hierarchical structure of <i>Heloderma suspectum</i> osteoderms and their mechanical properties. <i>Acta Biomaterialia</i> , 2020 , 107, 194-203	10.8	3
37	Application of Photo-Electrochemically Generated Hydrogen with Fuel Cell Based Micro-Combined Heat and Power: A Dynamic System Modelling Study. <i>Molecules</i> , 2019 , 25,	4.8	3
36	Data for an Advanced Microstructural and Electrochemical Datasheet on 18650 Li-ion Batteries with Nickel-Rich NMC811 Cathodes and Graphite-Silicon Anodes. <i>Data in Brief</i> , 2020 , 32, 106033	1.2	3
35	Evaluation and realization of safer Mg-S battery: The decisive role of the electrolyte. <i>Nano Energy</i> , 2021 , 83, 105832	17.1	3
34	Hard Carbon Composite Electrodes for Sodium-Ion Batteries with Nano-Zeolite and Carbon Black Additives. <i>Batteries and Supercaps</i> , 2021 , 4, 163-172	5.6	3
33	Evaluating microstructure evolution in an SOFC electrode using digital volume correlation. <i>Sustainable Energy and Fuels</i> , 2018 , 2, 2625-2635	5.8	3
32	Ultrasound Acoustic Measurement of the Lithium-Ion Battery Electrode Drying Process. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 36605-36620	9.5	3
31	The Time-Dependent Role of Bisphosphonates on Atherosclerotic Plaque Calcification. <i>Journal of Cardiovascular Development and Disease</i> , 2022 , 9, 168	4.2	3

30	The Detection of Monoclinic Zirconia and Non-Uniform 3D Crystallographic Strain in a Re-Oxidized Ni-YSZ Solid Oxide Fuel Cell Anode. <i>Crystals</i> , 2020 , 10, 941	2.3	2
29	Flow Batteries: Insights into the Effect of Structural Heterogeneity in Carbonized Electrospun Fibrous Mats for Flow Battery Electrodes by X-Ray Tomography (Small 9/2018). <i>Small</i> , 2018 , 14, 1870040 ¹¹		2
28	Analyzing the Mechanical Performance of Solid Oxide Fuel Cells at Interfacial Anode/Electrolyte Regions Using Sub-Micron Resolution 3D X-Ray Computed Tomography. <i>ECS Transactions</i> , 2017 , 78, 2317-2321 ²		
27	Editors' Choice 3D Neutron and X-ray Tomography Studies of High Energy Density Primary Batteries: Part II. Multi-Modal Microscopy of LiSOCl ₂ Cells. <i>Journal of the Electrochemical Society</i> , 2020 , 167, 140509	3.9	2
26	Asphericity Can Cause Nonuniform Lithium Intercalation in Battery Active Particles. <i>ACS Energy Letters</i> , 2022 , 7, 1871-1879	20.1	2
25	Nanoporous Carbons: Superior Multifunctional Activity of Nanoporous Carbons with Widely Tunable Porosity: Enhanced Storage Capacities for Carbon-Dioxide, Hydrogen, Water, and Electric Charge (Adv. Energy Mater. 9/2020). <i>Advanced Energy Materials</i> , 2020 , 10, 2070039	21.8	1
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