Thomas M M Heenan

List of Publications by Year
in descending order

185 papers	7,989 citations	41344 49 h-index	64796 79 g-index
192 all docs	192 docs citations	192 times ranked	7249 citing authors

#	Article	IF	Citations
1	In-operando high-speed tomography of lithium-ion batteries during thermal runaway. Nature Communications, 2015, 6, 6924.	12.8	494
2	Tuning the interlayer spacing of graphene laminate films for efficient pore utilization towards compact capacitive energy storage. Nature Energy, 2020, 5, 160-168.	39.5	381
3	3D microstructure design of lithium-ion battery electrodes assisted by X-ray nano-computed tomography and modelling. Nature Communications, 2020, 11, 2079.	12.8	217
4	Local Tortuosity Inhomogeneities in a Lithium Battery Composite Electrode. Journal of the Electrochemical Society, 2011, 158, A1393.	2.9	203
5	Characterising thermal runaway within lithium-ion cells by inducing and monitoring internal short circuits. Energy and Environmental Science, 2017, 10, 1377-1388.	30.8	194
6	Multiâ€Scale Investigations of Îˆâ€Ni_{0.25}V₂O₅Â·nH₂O Cathode Materials in Aqueous Zincâ€Ion Batteries. Advanced Energy Materials, 2020, 10, 2000058.	19.5	173
7	Tortuosity in electrochemical devices: a review of calculation approaches. International Materials Reviews, 2018, 63, 47-67.	19.3	172
8	Palladium alloys used as electrocatalysts for the oxygen reduction reaction. Energy and Environmental Science, 2021, 14, 2639-2669.	30.8	158
9	Three-dimensional characterization of electrodeposited lithium microstructures using synchrotron X-ray phase contrast imaging. Chemical Communications, 2015, 51, 266-268.	4.1	133
10	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
11	Investigating lithium-ion battery materials during overcharge-induced thermal runaway: an operando and multi-scale X-ray CT study. Physical Chemistry Chemical Physics, 2016, 18, 30912-30919.	2.8	130
12	Spatial dynamics of lithiation and lithium plating during high-rate operation of graphite electrodes. Energy and Environmental Science, 2020, 13, 2570-2584.	30.8	124
13	Identifying the Origins of Microstructural Defects Such as Cracking within Niâ€Rich NMC811 Cathode Particles for Lithiumâ€Ion Batteries. Advanced Energy Materials, 2020, 10, 2002655.	19.5	119
14	Non-uniform temperature distribution in Li-ion batteries during discharge â€“ A combined thermal imaging, X-ray micro-tomography and electrochemical impedance approach. Journal of Power Sources, 2014, 252, 51-57.	7.8	108
15	4D imaging of lithium-batteries using correlative neutron and X-ray tomography with a virtual unrolling technique. Nature Communications, 2020, 11, 777.	12.8	104
16	Tracking Internal Temperature and Structural Dynamics during Nail Penetration of Lithium-Ion Cells. Journal of the Electrochemical Society, 2017, 164, A3285-A3291.	2.9	102
17	Cathode Design for Aqueous Rechargeable Multivalent Ion Batteries: Challenges and Opportunities. Advanced Functional Materials, 2021, 31, 2010445.	14.9	102
18	Quantifying the anisotropy and tortuosity of permeable pathways in clay-rich mudstones using models based on X-ray tomography. Scientific Reports, 2017, 7, 14838.	3.3	97

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19	Microstructural Evolution of Battery Electrodes During Calendering. Joule, 2020, 4, 2746-2768.	24.0	95
20	Modelling and experiments to identify high-risk failure scenarios for testing the safety of lithium-ion cells. Journal of Power Sources, 2019, 417, 29-41.	7.8	93
21	Lithiationâ€Induced Dilation Mapping in a Lithiumâ€Ion Battery Electrode by 3D Xâ€Ray Microscopy and Digital Volume Correlation. Advanced Energy Materials, 2014, 4, 1300506.	19.5	89
22	Identifying the Cause of Rupture of Liâ€Ion Batteries during Thermal Runaway. Advanced Science, 2018, 5, 1700369.	11.2	89
23	Free-standing supercapacitors from Kraft lignin nanofibers with remarkable volumetric energy density. Chemical Science, 2019, 10, 2980-2988.	7.4	88
24	Engineering Catalyst Layers for Nextâ€Generation Polymer Electrolyte Fuel Cells: A Review of Design, Materials, and Methods. Advanced Energy Materials, 2021, 11, 2101025.	19.5	85
25	Visualizing the Carbon Binder Phase of Battery Electrodes in Three Dimensions. ACS Applied Energy Materials, 2018, 1, 3702-3710.	5.1	83
26	Developments in X-ray tomography characterization for electrochemical devices. Materials Today, 2019, 31, 69-85.	14.2	79
27	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. Electrochimica Acta, 2016, 211, 478-487.	5.2	78
28	Mechanisms and effects of mechanical compression and dimensional change in polymer electrolyte fuel cells â€“ A review. Journal of Power Sources, 2015, 284, 305-320.	7.8	76
29	2021 roadmap on lithium sulfur batteries. JPhys Energy, 2021, 3, 031501.	5.3	74
30	Spatially Resolving Lithiation in Siliconâ€“Graphite Composite Electrodes via in Situ High-Energy X-ray Diffraction Computed Tomography. Nano Letters, 2019, 19, 3811-3820.	9.1	73
31	Spatial quantification of dynamic inter and intra particle crystallographic heterogeneities within lithium ion electrodes. Nature Communications, 2020, 11, 631.	12.8	73
32	Emerging X-ray imaging technologies for energy materials. Materials Today, 2020, 34, 132-147.	14.2	70
33	A Review of Lithiumâ€Ion Battery Electrode Drying: Mechanisms and Metrology. Advanced Energy Materials, 2022, 12, .	19.5	70
34	Quantifying Bulk Electrode Strain and Material Displacement within Lithium Batteries via Highâ€Speed Operando Tomography and Digital Volume Correlation. Advanced Science, 2016, 3, 1500332.	11.2	66
35	Operando Electrochemical Atomic Force Microscopy of Solidâ€“Electrolyte Interphase Formation on Graphite Anodes: The Evolution of SEI Morphology and Mechanical Properties. ACS Applied Materials & Interfaces, 2020, 12, 35132-35141.	8.0	65
36	Characterising the structural properties of polymer separators for lithium-ion batteries in 3D using phase contrast X-ray microscopy. Journal of Power Sources, 2016, 333, 184-192.	7.8	63

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37	Exploring 3D microstructural evolution in Li-Sulfur battery electrodes using in-situ X-ray tomography. Scientific Reports, 2016, 6, 35291.	3.3	61
38	Defected vanadium bronzes as superb cathodes in aqueous zinc-ion batteries. Nanoscale, 2020, 12, 20638-20648.	5.6	61
39	The application of hierarchical structures in energy devices: new insights into the design of solid oxide fuel cells with enhanced mass transport. Energy and Environmental Science, 2018, 11, 2390-2403.	30.8	59
40	Spatially resolved ultrasound diagnostics of Li-ion battery electrodes. Physical Chemistry Chemical Physics, 2019, 21, 6354-6361.	2.8	59
41	Sodium Superionic Conductors (NASICONs) as Cathode Materials for Sodium-Ion Batteries. Electrochemical Energy Reviews, 2021, 4, 793-823.	25.5	59
42	Comparison of threeâ€dimensional analysis and stereological techniques for quantifying lithiumâ€ion battery electrode microstructures. Journal of Microscopy, 2016, 263, 280-292.	1.8	57
43	Design of next-generation ceramic fuel cells and real-time characterization with synchrotron X-ray diffraction computed tomography. Nature Communications, 2019, 10, 1497.	12.8	56
44	Elucidating the Sodiation Mechanism in Hard Carbon by Operando Raman Spectroscopy. ACS Applied Energy Materials, 2020, 3, 7474-7484.	5.1	56
45	Laserâ€preparation of geometrically optimised samples for Xâ€ray nanoâ€CT. Journal of Microscopy, 2017, 267, 384-396.	1.8	54
46	Microstructural degradation of silicon electrodes during lithiation observed via operando X-ray tomographic imaging. Journal of Power Sources, 2017, 342, 904-912.	7.8	54
47	Design of Scalable, Next-Generation Thick Electrodes: Opportunities and Challenges. ACS Nano, 2021, 15, 18624-18632.	14.6	54
48	Correlation between triple phase boundary and the microstructure of Solid Oxide Fuel Cell anodes: The role of composition, porosity and Ni densification. Journal of Power Sources, 2017, 365, 210-219.	7.8	53
49	Synergistic relationship between the three-dimensional nanostructure and electrochemical performance in biocarbon supercapacitor electrode materials. Sustainable Energy and Fuels, 2018, 2, 772-785.	4.9	53
50	Coreâ€“shell TiO₂@C ultralong nanotubes with enhanced adsorption of antibiotics. Journal of Materials Chemistry A, 2019, 7, 19081-19086.	10.3	53
51	A universal pH range and a highly efficient Mo₂C-based electrocatalyst for the hydrogen evolution reaction. Journal of Materials Chemistry A, 2020, 8, 19879-19886.	10.3	50
52	Four-Dimensional Studies of Morphology Evolution in Lithiumâ€“Sulfur Batteries. ACS Applied Energy Materials, 2018, 1, 5090-5100.	5.1	49
53	Multi-length scale microstructural design of lithium-ion battery electrodes for improved discharge rate performance. Energy and Environmental Science, 2021, 14, 5929-5946.	30.8	48
54	The Hydro-electro-thermal Performance of Air-cooled, Open-cathode Polymer Electrolyte Fuel Cells: Combined Localised Current Density, Temperature and Water Mapping. Electrochimica Acta, 2015, 180, 307-315.	5.2	47

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55	Cracking predictions of lithium-ion battery electrodes by X-ray computed tomography and modelling. Journal of Power Sources, 2022, 526, 231119.	7.8	47
56	The effect of non-uniform compression and flow-field arrangements on membrane electrode assemblies - X-ray computed tomography characterisation and effective parameter determination. Journal of Power Sources, 2019, 426, 97-110.	7.8	46
57	A study of the effect of water management and electrode flooding onÂthe dimensional change of polymer electrolyte fuel cells. Journal of Power Sources, 2013, 242, 70-77.	7.8	45
58	System-level electro-thermal optimisation of air-cooled open-cathode polymer electrolyte fuel cells: Air blower parasitic load and schemes for dynamic operation. International Journal of Hydrogen Energy, 2015, 40, 16760-16766.	7.1	45
59	Facile Fabrication of Robust Hydrogen Evolution Electrodes under High Current Densities via Pt@Cu Interactions. Advanced Functional Materials, 2021, 31, 2105579.	14.9	45
60	The use of contrast enhancement techniques in X-ray imaging of lithiumâ€“ion battery electrodes. Chemical Engineering Science, 2016, 154, 27-33.	3.8	43
61	Highâ€Ðensity Ligninâ€Ðerived Carbon Nanofiber Supercapacitors with Enhanced Volumetric Energy Density. Advanced Science, 2021, 8, e2100016.	11.2	42
62	High-Performance Zincâ€“Air Batteries with Scalable Metalâ€“Organic Frameworks and Platinum Carbon Black Bifunctional Catalysts. ACS Applied Materials & Interfaces, 2020, 12, 42696-42703.	8.0	41
63	Superior Multifunctional Activity of Nanoporous Carbons with Widely Tunable Porosity: Enhanced Storage Capacities for Carbonâ€Ðioxide, Hydrogen, Water, and Electric Charge. Advanced Energy Materials, 2020, 10, 1903649.	19.5	41
64	Dendrite suppression by anode polishing in zinc-ion batteries. Journal of Materials Chemistry A, 2021, 9, 15355-15362.	10.3	41
65	Characterizing Batteries by In Situ Electrochemical Atomic Force Microscopy: A Critical Review. Advanced Energy Materials, 2021, 11, 2101518.	19.5	40
66	Crack detection in lithium-ion cells using machine learning. Computational Materials Science, 2017, 136, 297-305.	3.0	39
67	An Advanced Microstructural and Electrochemical Datasheet on 18650 Li-Ion Batteries with Nickel-Rich NMC811 Cathodes and Graphite-Silicon Anodes. Journal of the Electrochemical Society, 2020, 167, 140530.	2.9	39
68	A Dilatometric Study of Graphite Electrodes during Cycling with X-ray Computed Tomography. Journal of the Electrochemical Society, 2021, 168, 010507.	2.9	38
69	Examining the Cycling Behaviour of Li-Ion Batteries Using Ultrasonic Time-of-Flight Measurements. Journal of Power Sources, 2019, 444, 227318.	7.8	37
70	Virtual unrolling of spirally-wound lithium-ion cells for correlative degradation studies and predictive fault detection. Sustainable Energy and Fuels, 2019, 3, 2972-2976.	4.9	37
71	Using In-Situ Laboratory and Synchrotron-Based X-ray Diffraction for Lithium-Ion Batteries Characterization: A Review on Recent Developments. Condensed Matter, 2020, 5, 75.	1.8	37
72	Quantitative Relationships Between Pore Tortuosity, Pore Topology, and Solid Particle Morphology Using a Novel Discrete Particle Size Algorithm. Journal of the Electrochemical Society, 2020, 167, 100513.	2.9	37

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73	Identifying Defects in Li-Ion Cells Using Ultrasound Acoustic Measurements. Journal of the Electrochemical Society, 2020, 167, 120530.	2.9	37
74	Reduction Dynamics of Doped Ceria, Nickel Oxide, and Cermet Composites Probed Using In Situ Raman Spectroscopy. Advanced Science, 2016, 3, 1500146.	11.2	36
75	A spinal organ of proprioception for integrated motor action feedback. Neuron, 2021, 109, 1188-1201.e7.	8.1	36
76	Design of a miniature flow cell forin situx-ray imaging of redox flow batteries. Journal Physics D: Applied Physics, 2016, 49, 434002.	2.8	35
77	A Structure and Durability Comparison of Membrane Electrode Assembly Fabrication Methods: Self-Assembled Versus Hot-Pressed. Journal of the Electrochemical Society, 2018, 165, F3045-F3052.	2.9	34
78	Porous Metalâ€“Organic Frameworks for Enhanced Performance Silicon Anodes in Lithium-Ion Batteries. Chemistry of Materials, 2019, 31, 4156-4165.	6.7	34
79	Investigating the effect of thermal gradients on stress in solid oxide fuel cell anodes using combined synchrotron radiation and thermal imaging. Journal of Power Sources, 2015, 288, 473-481.	7.8	33
80	Evolution of Electrochemical Cell Designs for In-Situ and Operando 3D Characterization. Materials, 2018, 11, 2157.	2.9	33
81	Thermo-chemical conversion of carbonaceous wastes for CNT and hydrogen production: a review. Sustainable Energy and Fuels, 2021, 5, 4173-4208.	4.9	33
82	3Dâ€Printed Structural Pseudocapacitors. Advanced Materials Technologies, 2016, 1, 1600167.	5.8	32
83	Disentangling water, ion and polymer dynamics in an anion exchange membrane. Nature Materials, 2022, 21, 555-563.	27.5	32
84	Insights into the Effect of Structural Heterogeneity in Carbonized Electrospun Fibrous Mats for Flow Battery Electrodes by Xâ€Ray Tomography. Small, 2018, 14, 1703616.	10.0	31
85	3D Imaging of Lithium Protrusions in Solidâ€State Lithium Batteries using Xâ€Ray Computed Tomography. Advanced Functional Materials, 2021, 31, 2007564.	14.9	31
86	X-ray Micro-Computed Tomography of Polymer Electrolyte Fuel Cells: What is the Representative Elementary Area?. Journal of the Electrochemical Society, 2020, 167, 013545.	2.9	30
87	Correlative acoustic time-of-flight spectroscopy and X-ray imaging to investigate gas-induced delamination in lithium-ion pouch cells during thermal runaway. Journal of Power Sources, 2020, 470, 228039.	7.8	30
88	Microstructure analysis and image-based modelling of face masks for COVID-19 virus protection. Communications Materials, 2021, 2, .	6.9	30
89	Neutron imaging of lithium batteries. Joule, 2022, 6, 35-52.	24.0	29
90	Exploring cycling induced crystallographic change in NMC with X-ray diffraction computed tomography. Physical Chemistry Chemical Physics, 2020, 22, 17814-17823.	2.8	28

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91	The effect of cell geometry and trigger method on the risks associated with thermal runaway of lithium-ion batteries. Journal of Power Sources, 2022, 524, 230645.	7.8	28
92	Optimal integrated energy systems design incorporating variable renewable energy sources. Computers and Chemical Engineering, 2016, 95, 21-37.	3.8	27
93	Multi-length scale tomography for the determination and optimization of the effective microstructural properties in novel hierarchical solid oxide fuel cell anodes. Journal of Power Sources, 2017, 367, 177-186.	7.8	27
94	Probing Heterogeneity in Li-Ion Batteries with Coupled Multiscale Models of Electrochemistry and Thermal Transport using Tomographic Domains. Journal of the Electrochemical Society, 2020, 167, 110538.	2.9	27
95	Threeâ€Phase Segmentation of Solid Oxide Fuel Cell Anode Materials Using Lab Based Xâ€ray Nanoâ€Computed Tomography. Fuel Cells, 2017, 17, 75-82.	2.4	26
96	Microstructural Analysis of the Effects of Thermal Runaway on Li-Ion and Na-Ion Battery Electrodes. Journal of Electrochemical Energy Conversion and Storage, 2018, 15, .	2.1	26
97	Effect of cell compression on the water dynamics of a polymer electrolyte fuel cell using in-plane and through-plane in-operando neutron radiography. Journal of Power Sources, 2019, 439, 227074.	7.8	26
98	Resolving Liâ€Ion Battery Electrode Particles Using Rapid Labâ€Based Xâ€Ray Nanoâ€Computed Tomography for Highâ€Throughput Quantification. Advanced Science, 2020, 7, 2000362.	11.2	26
99	The application of 3D imaging techniques, simulation and diffusion experiments to explore transport properties in porous oxygen transport membrane support materials. Solid State Ionics, 2016, 288, 315-321.	2.7	25
100	The Use of Graphitic Carbon Nitride Based Composite Anodes for Lithiumâ€Ion Battery Applications. Electroanalysis, 2015, 27, 2614-2619.	2.9	24
101	Imaging fascicular organization of rat sciatic nerves with fast neural electrical impedance tomography. Nature Communications, 2020, 11, 6241.	12.8	24
102	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. Journal of Materials Chemistry A, 2021, 9, 9113-9123.	10.3	24
103	Xâ€ray Nano Computed Tomography of Electrospun Fibrous Mats as Flow Battery Electrodes. Energy Technology, 2018, 6, 2488-2500.	3.8	23
104	Operando Bragg Coherent Diffraction Imaging of LiNi_{0.8}Mn_{0.1}Co_{0.1}O₂ Primary Particles within Commercially Printed NMC811 Electrode Sheets. ACS Nano, 2021, 15, 1321-1330.	14.6	23
105	Ex-situ characterisation of water droplet dynamics on the surface of a fuel cell gas diffusion layer through wettability analysis and thermal characterisation. International Journal of Hydrogen Energy, 2017, 42, 4404-4414.	7.1	22
106	Three-dimensional image based modelling of transport parameters in lithiumâ€“sulfur batteries. Physical Chemistry Chemical Physics, 2019, 21, 4145-4154.	2.8	22
107	The Imaging Resolution and Knudsen Effect on the Mass Transport of Shale Gas Assisted by Multi-length Scale X-Ray Computed Tomography. Scientific Reports, 2019, 9, 19465.	3.3	22
108	Investigating high-performance sulfurâ€“metal nanocomposites for lithium batteries. Sustainable Energy and Fuels, 2020, 4, 2907-2923.	4.9	22

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109	Flexible all-solid-state supercapacitors based on PPy/rGO nanocomposite on cotton fabric. Nanotechnology, 2021, 32, 305401.	2.6	22
110	Asphericity Can Cause Nonuniform Lithium Intercalation in Battery Active Particles. ACS Energy Letters, 2022, 7, 1871-1879.	17.4	21
111	Three-Dimensional Visualization of Conductive Domains in Battery Electrodes with Contrast-Enhancing Nanoparticles. ACS Applied Energy Materials, 2018, 1, 4479-4484.	5.1	20
112	Recent advances in acoustic diagnostics for electrochemical power systems. JPhys Energy, 2021, 3, 032011.	5.3	20
113	A novel polymer electrolyte fuel cell flow-field: The through-plane array. Journal of Power Sources, 2019, 442, 227218.	7.8	18
114	In Situ Ultrasound Acoustic Measurement of the Lithium-Ion Battery Electrode Drying Process. ACS Applied Materials & Interfaces, 2021, 13, 36605-36620.	8.0	18
115	Influence of Flow Field Design on Zinc Deposition and Performance in a Zinc-Iodide Flow Battery. ACS Applied Materials & Interfaces, 2021, 13, 41563-41572.	8.0	18
116	High-performance fuel cell designed for coking-resistance and efficient conversion of waste methane to electrical energy. Energy and Environmental Science, 2020, 13, 1879-1887.	30.8	18
117	Study of H2S Removal Capability from Simulated Biogas by Using Waste-Derived Adsorbent Materials. Processes, 2020, 8, 1030.	2.8	17
118	Probing the Structure-Performance Relationship of Lithium-Ion Battery Cathodes Using Pore-Networks Extracted from Three-Phase Tomograms. Journal of the Electrochemical Society, 2020, 167, 040528.	2.9	17
119	Hard Carbon Composite Electrodes for Sodiumâ€Ion Batteries with Nanoâ€Zeolite and Carbon Black Additives. Batteries and Supercaps, 2021, 4, 163-172.	4.7	17
120	In-situ X-ray tomographic imaging study of gas and structural evolution in a commercial Li-ion pouch cell. Journal of Power Sources, 2022, 520, 230818.	7.8	17
121	The multiscale hierarchical structure of Heloderma suspectum osteoderms and their mechanical properties. Acta Biomaterialia, 2020, 107, 194-203.	8.3	16
122	Operando Ultrasonic Monitoring of Lithium-Ion Battery Temperature and Behaviour at Different Cycling Rates and under Drive Cycle Conditions. Journal of the Electrochemical Society, 2022, 169, 040563.	2.9	16
123	Batteries: Imaging degradation. Nature Energy, 2016, 1, .	39.5	15
124	Examining the effect of the secondary flow-field on polymer electrolyte fuel cells using X-ray computed radiography and computational modelling. International Journal of Hydrogen Energy, 2019, 44, 1139-1150.	7.1	15
125	Dendritic silver self-assembly in molten-carbonate membranes for efficient carbon dioxide capture. Energy and Environmental Science, 2020, 13, 1766-1775.	30.8	15
126	Thermally Driven SOFC Degradation in 4D: Part I. Microscale. Journal of the Electrochemical Society, 2018, 165, F921-F931.	2.9	14

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127	Xâ€ray Nanoâ€computed Tomography of Electrochemical Conversion in Lithiumâ€ion Battery. ChemSusChem, 2019, 12, 3550-3561.	6.8	14
128	Use of X-ray computed tomography for understanding localised, along-the-channel degradation of polymer electrolyte fuel cells. Electrochimica Acta, 2020, 352, 136464.	5.2	14
129	In situ studies of materials for high temperature CO₂ capture and storage. Faraday Discussions, 2016, 192, 217-240.	3.2	12
130	Thermally Driven SOFC Degradation in 4D: Part II. Macroscale. Journal of the Electrochemical Society, 2018, 165, F932-F941.	2.9	12
131	In situ visualization by X-Ray computed tomography on sulfur stabilization and lithium polysulfides immobilization in S@HCS/MnO cathode. Energy Storage Materials, 2020, 31, 164-171.	18.0	12
132	Porous 3D graphene aerogel co-doped with nitrogen and sulfur for high-performance supercapacitors. Nanotechnology, 2021, 32, 195405.	2.6	12
133	Developments in Dilatometry for Characterisation of Electrochemical Devices. Batteries and Supercaps, 2021, 4, 1378-1396.	4.7	12
134	Editorsâ€™ Choiceâ€”4D Neutron and X-ray Tomography Studies of High Energy Density Primary Batteries: Part I. Dynamic Studies of LiSOCl2 during Discharge. Journal of the Electrochemical Society, 2020, 167, 130545.	2.9	12
135	Thermal Runaway: Identifying the Cause of Rupture of Liâ€ion Batteries during Thermal Runaway (Adv.) Tj ETQq1 1 0.784314 rgBT /Over	11.2	11
136	Data for an Advanced Microstructural and Electrochemical Datasheet on 18650 Li-ion Batteries with Nickel-Rich NMC811 Cathodes and Graphite-Silicon Anodes. Data in Brief, 2020, 32, 106033.	1.0	11
137	Self-activated cathode substrates in rechargeable zincâ€“air batteries. Energy Storage Materials, 2021, 35, 530-537.	18.0	11
138	Thermal Runaway of Li-Ion Cells: How Internal Dynamics, Mass Ejection, and Heat Vary with Cell Geometry and Abuse Type. Journal of the Electrochemical Society, 2022, 169, 020526.	2.9	11
139	Towards a mechanistic understanding of particle shrinkage during biomass pyrolysis via synchrotron X-ray microtomography and in-situ radiography. Scientific Reports, 2021, 11, 2656.	3.3	10
140	A Multiscale Xâ€Ray Tomography Study of the Cycledâ€Induced Degradation in Magnesiumâ€“Sulfur Batteries. Small Methods, 2021, 5, e2001193.	8.6	10
141	Evaluation and realization of safer Mg-S battery: The decisive role of the electrolyte. Nano Energy, 2021, 83, 105832.	16.0	10
142	The effect of non-uniform compression on the performance of polymer electrolyte fuel cells. Journal of Power Sources, 2022, 521, 230973.	7.8	10
143	High-speed 4D neutron computed tomography for quantifying water dynamics in polymer electrolyte fuel cells. Nature Communications, 2022, 13, 1616.	12.8	10
144	Applications of advanced metrology for understanding the effects of drying temperature in the lithium-ion battery electrode manufacturing process. Journal of Materials Chemistry A, 2022, 10, 10593-10603.	10.3	10

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145	A novel high-temperature furnace for combinedinÂsitusynchrotron X-ray diffraction and infrared thermal imaging to investigate the effects of thermal gradients upon the structure of ceramic materials. Journal of Synchrotron Radiation, 2014, 21, 1134-1139.	2.4	9
146	Current Imbalance in Parallel Battery Strings Measured Using a Hallâ€Effect Sensor Array. Energy Technology, 2021, 9, 2001014.	3.8	9
147	Degradation of Layered Oxide Cathode in a Sodium Battery: A Detailed Investigation by Xâ€Ray Tomography at the Nanoscale. Small Methods, 2021, 5, e2100596.	8.6	9
148	Ultra high-resolution biomechanics suggest that substructures within insect mechanosensors decisively affect their sensitivity. Journal of the Royal Society Interface, 2022, 19, 20220102.	3.4	9
149	4D Bragg Edge Tomography of Directional Ice Templated Graphite Electrodes. Journal of Imaging, 2020, 6, 136.	3.0	8
150	Zincâ€Ion Batteries: Multiâ€Scale Investigations of Îˆâ€Ni_{0.25}V₂O₅Â·nH₂O Cathode Materials in Aqueous Zincâ€Ion Batteries (Adv. Energy Mater. 15/2020). Advanced Energy Materials, 2020, 10, 2070068.	19.5	8
151	Multiscale tomographic analysis of the thermal failure of Na-Ion batteries. Journal of Power Sources, 2018, 400, 360-368.	7.8	7
152	Editorsâ€™ Choiceâ€”4D Neutron and X-ray Tomography Studies of High Energy Density Primary Batteries: Part II. Multi-Modal Microscopy of LiSOCl2 Cells. Journal of the Electrochemical Society, 2020, 167, 140509.	2.9	7
153	Study of Tire Pyrolysis Oil Model Compound Structure on Carbon Nanomaterial Production. ACS Sustainable Chemistry and Engineering, 2022, 10, 800-809.	6.7	7
154	An open-source platform for 3D-printed redox flow battery test cells. Sustainable Energy and Fuels, 2022, 6, 1529-1540.	4.9	7
155	Precisely visit the performance modulation of functionalized separator in Li-S batteries via consecutive multiscale analysis. Energy Storage Materials, 2022, 49, 85-92.	18.0	7
156	A novel molten-salt electrochemical cell for investigatingÂthe reduction of uranium dioxide to uranium metal by lithium using in situ synchrotron radiation. Journal of Synchrotron Radiation, 2017, 24, 439-444.	2.4	6
157	In-Situ Li-Ion Pouch Cell Diagnostics Utilising Plasmonic Based Optical Fibre Sensors. Sensors, 2022, 22, 738.	3.8	6
158	Electrochemical Reduction of UO₂to U in LiCl-KCl Molten Salt Eutectic Using the Fluidized Cathode Process. Journal of the Electrochemical Society, 2017, 164, H5280-H5285.	2.9	5
159	A Lab-Based Multi-Length Scale Approach to Characterize Lithium-Ion Cathode Materials. ECS Transactions, 2017, 77, 1119-1124.	0.5	5
160	Application of Photo-Electrochemically Generated Hydrogen with Fuel Cell Based Micro-Combined Heat and Power: A Dynamic System Modelling Study. Molecules, 2020, 25, 123.	3.8	5
161	Investigation of the Effect of Temperature on Lithiumâ€Sulfur Cell Cycle Life Performance Using System Identification and Xâ€Ray Tomography. Batteries and Supercaps, 2022, 5, .	4.7	5
162	Evaluating microstructure evolution in an SOFC electrode using digital volume correlation. Sustainable Energy and Fuels, 2018, 2, 2625-2635.	4.9	4

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163	The Role of Bi-Polar Plate Design and the Start-Up Protocol in the Spatiotemporal Dynamics during Solid Oxide Fuel Cell Anode Reduction. Energies, 2020, 13, 3552.	3.1	4
164	The Detection of Monoclinic Zirconia and Non-Uniform 3D Crystallographic Strain in a Re-Oxidized Ni-YSZ Solid Oxide Fuel Cell Anode. Crystals, 2020, 10, 941.	2.2	4
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