

Paul R Shearing

List of Publications by Year in descending order

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406
papers

16,111
citations

15495

65
h-index

32815

100
g-index

417
all docs

417
docs citations

417
times ranked

12480
citing authors

#	ARTICLE	IF	CITATIONS
1	In-operando high-speed tomography of lithium-ion batteries during thermal runaway. <i>Nature Communications</i> , 2015, 6, 6924.	5.8	494
2	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.	19.8	381
3	Alleviation of Dendrite Formation on Zinc Anodes via Electrolyte Additives. <i>ACS Energy Letters</i> , 2021, 6, 395-403.	8.8	340
4	On the origin and application of the Bruggeman correlation for analysing transport phenomena in electrochemical systems. <i>Current Opinion in Chemical Engineering</i> , 2016, 12, 44-51.	3.8	306
5	TauFactor: An open-source application for calculating tortuosity factors from tomographic data. <i>SoftwareX</i> , 2016, 5, 203-210.	1.2	257
6	Characterization of the 3-dimensional microstructure of a graphite negative electrode from a Li-ion battery. <i>Electrochemistry Communications</i> , 2010, 12, 374-377.	2.3	256
7	3D microstructure design of lithium-ion battery electrodes assisted by X-ray nano-computed tomography and modelling. <i>Nature Communications</i> , 2020, 11, 2079.	5.8	217
8	Local Tortuosity Inhomogeneities in a Lithium Battery Composite Electrode. <i>Journal of the Electrochemical Society</i> , 2011, 158, A1393.	1.3	203
9	Rechargeable aqueous Zn-based energy storage devices. <i>Joule</i> , 2021, 5, 2845-2903.	11.7	201
10	Comparison of residual oil cluster size distribution, morphology and saturation in oil-wet and water-wet sandstone. <i>Journal of Colloid and Interface Science</i> , 2012, 375, 187-192.	5.0	198
11	Characterising thermal runaway within lithium-ion cells by inducing and monitoring internal short circuits. <i>Energy and Environmental Science</i> , 2017, 10, 1377-1388.	15.6	194
12	Multi-scale Investigations of $\text{Ni}_{0.25}\text{V}_{2}\text{O}_{5}\cdot\text{nH}_{2}\text{O}$ Cathode Materials in Aqueous Zinc-Ion Batteries. <i>Advanced Energy Materials</i> , 2020, 10, 2000058.	10.2	173
13	Tortuosity in electrochemical devices: a review of calculation approaches. <i>International Materials Reviews</i> , 2018, 63, 47-67.	9.4	172
14	3D reconstruction of SOFC anodes using a focused ion beam lift-out technique. <i>Chemical Engineering Science</i> , 2009, 64, 3928-3933.	1.9	169
15	Image based modelling of microstructural heterogeneity in LiFePO ₄ electrodes for Li-ion batteries. <i>Journal of Power Sources</i> , 2014, 247, 1033-1039.	4.0	162
16	Palladium alloys used as electrocatalysts for the oxygen reduction reaction. <i>Energy and Environmental Science</i> , 2021, 14, 2639-2669.	15.6	158
17	In situ diagnostic techniques for characterisation of polymer electrolyte membrane water electrolyzers – Flow visualisation and electrochemical impedance spectroscopy. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 4468-4482.	3.8	136
18	Three-dimensional characterization of electrodeposited lithium microstructures using synchrotron X-ray phase contrast imaging. <i>Chemical Communications</i> , 2015, 51, 266-268.	2.2	133

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19	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.	1.3	133
20	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.	1.3	130
21	Spatial dynamics of lithiation and lithium plating during high-rate operation of graphite electrodes. <i>Energy and Environmental Science</i> , 2020, 13, 2570-2584.	15.6	124
22	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.	10.2	119
23	Multi Length Scale Microstructural Investigations of a Commercially Available Li-Ion Battery Electrode. <i>Journal of the Electrochemical Society</i> , 2012, 159, A1023-A1027.	1.3	118
24	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.	4.0	108
25	4D imaging of lithium-batteries using correlative neutron and X-ray tomography with a virtual unrolling technique. <i>Nature Communications</i> , 2020, 11, 777.	5.8	104
26	High power nano-Nb ₂ O ₅ negative electrodes for lithium-ion batteries. <i>Electrochimica Acta</i> , 2016, 192, 363-369.	2.6	102
27	Tracking Internal Temperature and Structural Dynamics during Nail Penetration of Lithium-Ion Cells. <i>Journal of the Electrochemical Society</i> , 2017, 164, A3285-A3291.	1.3	102
28	Cathode Design for Aqueous Rechargeable Multivalent Ion Batteries: Challenges and Opportunities. <i>Advanced Functional Materials</i> , 2021, 31, 2010445.	7.8	102
29	Investigation of lithium-ion polymer battery cell failure using X-ray computed tomography. <i>Electrochemistry Communications</i> , 2011, 13, 608-610.	2.3	100
30	Particle Size Polydispersity in Li-Ion Batteries. <i>Journal of the Electrochemical Society</i> , 2014, 161, A422-A430.	1.3	98
31	X-ray nano computerised tomography of SOFC electrodes using a focused ion beam sample-preparation technique. <i>Journal of the European Ceramic Society</i> , 2010, 30, 1809-1814.	2.8	97
32	Graphitic Carbon Nitride as a Catalyst Support in Fuel Cells and Electrolyzers. <i>Electrochimica Acta</i> , 2016, 222, 44-57.	2.6	97
33	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.	1.6	97
34	Microstructural analysis of a solid oxide fuel cell anode using focused ion beam techniques coupled with electrochemical simulation. <i>Journal of Power Sources</i> , 2010, 195, 4804-4810.	4.0	96
35	Microstructural Evolution of Battery Electrodes During Calendaring. <i>Joule</i> , 2020, 4, 2746-2768.	11.7	95
36	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.	4.0	93

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37	Towards intelligent engineering of SOFC electrodes: a review of advanced microstructural characterisation techniques. <i>International Materials Reviews</i> , 2010, 55, 347-363.	9.4	92
38	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.	10.2	89
39	Identifying the Cause of Rupture of Li-Ion Batteries during Thermal Runaway. <i>Advanced Science</i> , 2018, 5, 1700369.	5.6	89
40	Free-standing supercapacitors from Kraft lignin nanofibers with remarkable volumetric energy density. <i>Chemical Science</i> , 2019, 10, 2980-2988.	3.7	88
41	Carbon monoxide poisoning and mitigation strategies for polymer electrolyte membrane fuel cells – A review. <i>Progress in Energy and Combustion Science</i> , 2020, 79, 100842.	15.8	87
42	High power TiO ₂ and high capacity Sn-doped TiO ₂ nanomaterial anodes for lithium-ion batteries. <i>Journal of Power Sources</i> , 2015, 294, 94-102.	4.0	86
43	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.	10.2	85
44	Highly pseudocapacitive Nb-doped TiO ₂ high power anodes for lithium-ion batteries. <i>Journal of Materials Chemistry A</i> , 2015, 3, 22908-22914.	5.2	84
45	Visualizing the Carbon Binder Phase of Battery Electrodes in Three Dimensions. <i>ACS Applied Energy Materials</i> , 2018, 1, 3702-3710.	2.5	83
46	Two-phase flow behaviour and performance of polymer electrolyte membrane electrolyzers: Electrochemical and optical characterisation. <i>International Journal of Hydrogen Energy</i> , 2018, 43, 15659-15672.	3.8	81
47	Developments in X-ray tomography characterization for electrochemical devices. <i>Materials Today</i> , 2019, 31, 69-85.	8.3	79
48	Mass transfer in fibrous media with varying anisotropy for flow battery electrodes: Direct numerical simulations with 3D X-ray computed tomography. <i>Chemical Engineering Science</i> , 2019, 196, 104-115.	1.9	79
49	Three-dimensional high resolution X-ray imaging and quantification of lithium ion battery mesocarbon microbead anodes. <i>Journal of Power Sources</i> , 2014, 248, 1014-1020.	4.0	78
50	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.	2.6	78
51	Using Synchrotron X-Ray Nano-CT to Characterize SOFC Electrode Microstructures in Three-Dimensions at Operating Temperature. <i>Electrochemical and Solid-State Letters</i> , 2011, 14, B117.	2.2	76
52	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.	4.0	76
53	Investigation of Hot Pressed Polymer Electrolyte Fuel Cell Assemblies via X-ray Computed Tomography. <i>Electrochimica Acta</i> , 2017, 242, 125-136.	2.6	74
54	Visualization of liquid water in a lung-inspired flow-field based polymer electrolyte membrane fuel cell via neutron radiography. <i>Energy</i> , 2019, 170, 14-21.	4.5	74

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55	2021 roadmap on lithium sulfur batteries. <i>JPhys Energy</i> , 2021, 3, 031501.	2.3	74
56	2020 roadmap on solid-state batteries. <i>JPhys Energy</i> , 2020, 2, 032008.	2.3	74
57	The application of phase contrast X-ray techniques for imaging Li-ion battery electrodes. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2014, 324, 118-123.	0.6	73
58	High power Nb-doped LiFePO ₄ Li-ion battery cathodes; pilot-scale synthesis and electrochemical properties. <i>Journal of Power Sources</i> , 2016, 326, 476-481.	4.0	73
59	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.	4.5	73
60	Spatial quantification of dynamic inter and intra particle crystallographic heterogeneities within lithium ion electrodes. <i>Nature Communications</i> , 2020, 11, 631.	5.8	73
61	Analysis of triple phase contact in Ni-YSZ microstructures using non-destructive X-ray tomography with synchrotron radiation. <i>Electrochemistry Communications</i> , 2010, 12, 1021-1024.	2.3	72
62	Emerging X-ray imaging technologies for energy materials. <i>Materials Today</i> , 2020, 34, 132-147.	8.3	70
63	A Review of Lithium-Ion Battery Electrode Drying: Mechanisms and Metrology. <i>Advanced Energy Materials</i> , 2022, 12, .	10.2	70
64	X-ray micro-tomography as a diagnostic tool for the electrode degradation in vanadium redox flow batteries. <i>Electrochemistry Communications</i> , 2014, 48, 155-159.	2.3	69
65	Combined current and temperature mapping in an air-cooled, open-cathode polymer electrolyte fuel cell under steady-state and dynamic conditions. <i>Journal of Power Sources</i> , 2015, 297, 315-322.	4.0	69
66	Exploring microstructural changes associated with oxidation in Ni-YSZ SOFC electrodes using high resolution X-ray computed tomography. <i>Solid State Ionics</i> , 2012, 216, 69-72.	1.3	68
67	Effect of temperature uncertainty on polymer electrolyte fuel cell performance. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 1439-1448.	3.8	67
68	The effect of felt compression on the performance and pressure drop of all-vanadium redox flow batteries. <i>Journal of Energy Storage</i> , 2016, 8, 91-98.	3.9	67
69	Current density mapping and optical flow visualisation of a polymer electrolyte membrane water electrolyser. <i>Journal of Power Sources</i> , 2014, 265, 97-103.	4.0	66
70	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.	5.6	66
71	Guiding the Design of Heterogeneous Electrode Microstructures for Li-Ion Batteries: Microscopic Imaging, Predictive Modeling, and Machine Learning. <i>Advanced Energy Materials</i> , 2021, 11, 2003908.	10.2	66
72	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.	4.0	65

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73	Real time chemical imaging of a working catalytic membrane reactor during oxidative coupling of methane. <i>Chemical Communications</i> , 2015, 51, 12752-12755.	2.2	63
74	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.	4.0	63
75	Pilot-scale continuous synthesis of a vanadium-doped LiFePO ₄ /C nanocomposite high-rate cathodes for lithium-ion batteries. <i>Journal of Power Sources</i> , 2016, 302, 410-418.	4.0	63
76	Exploring 3D microstructural evolution in Li-Sulfur battery electrodes using in-situ X-ray tomography. <i>Scientific Reports</i> , 2016, 6, 35291.	1.6	61
77	Defected vanadium bronzes as superb cathodes in aqueous zinc-ion batteries. <i>Nanoscale</i> , 2020, 12, 20638-20648.	2.8	61
78	Mass transport in PEM water electrolyzers: A review. <i>International Journal of Hydrogen Energy</i> , 2022, 47, 30-56.	3.8	60
79	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.	15.6	59
80	Spatially resolved ultrasound diagnostics of Li-ion battery electrodes. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 6354-6361.	1.3	59
81	Comparison of three-dimensional analysis and stereological techniques for quantifying lithium-ion battery electrode microstructures. <i>Journal of Microscopy</i> , 2016, 263, 280-292.	0.8	57
82	Optimisation of air cooled, open-cathode fuel cells: Current of lowest resistance and electro-thermal performance mapping. <i>Journal of Power Sources</i> , 2015, 291, 261-269.	4.0	56
83	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.	5.8	56
84	Elucidating the Sodiation Mechanism in Hard Carbon by Operando Raman Spectroscopy. <i>ACS Applied Energy Materials</i> , 2020, 3, 7474-7484.	2.5	56
85	Electrospinning as a route to advanced carbon fibre materials for selected low-temperature electrochemical devices: A review. <i>Journal of Energy Chemistry</i> , 2021, 59, 492-529.	7.1	56
86	Opportunities for the State-of-the-Art Production of LIB Electrodes—A Review. <i>Energies</i> , 2021, 14, 1406.	1.6	55
87	Laser-preparation of geometrically optimised samples for X-ray nano-CT. <i>Journal of Microscopy</i> , 2017, 267, 384-396.	0.8	54
88	Microstructural degradation of silicon electrodes during lithiation observed via operando X-ray tomographic imaging. <i>Journal of Power Sources</i> , 2017, 342, 904-912.	4.0	54
89	ZIF-8-Derived Hollow Carbon for Efficient Adsorption of Antibiotics. <i>Nanomaterials</i> , 2019, 9, 117.	1.9	54
90	Temperature, Ageing and Thermal Management of Lithium-Ion Batteries. <i>Energies</i> , 2021, 14, 1248.	1.6	54

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91	Tracking lithium penetration in solid electrolytes in 3D by in-situ synchrotron X-ray computed tomography. <i>Nano Energy</i> , 2021, 82, 105744.	8.2	54
92	Design of Scalable, Next-Generation Thick Electrodes: Opportunities and Challenges. <i>ACS Nano</i> , 2021, 15, 18624-18632.	7.3	54
93	A study of the effect of compression on the performance of polymer electrolyte fuel cells using electrochemical impedance spectroscopy and dimensional change analysis. <i>International Journal of Hydrogen Energy</i> , 2013, 38, 7414-7422.	3.8	53
94	4D analysis of the microstructural evolution of Si-based electrodes during lithiation: Time-lapse X-ray imaging and digital volume correlation. <i>Journal of Power Sources</i> , 2016, 320, 196-203.	4.0	53
95	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.	4.0	53
96	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.	2.5	53
97	Effect of serpentine flow-field design on the water management of polymer electrolyte fuel cells: An in-operando neutron radiography study. <i>Journal of Power Sources</i> , 2018, 399, 254-263.	4.0	53
98	Core-shell TiO ₂ @C ultralong nanotubes with enhanced adsorption of antibiotics. <i>Journal of Materials Chemistry A</i> , 2019, 7, 19081-19086.	5.2	53
99	High-power nitrated TiO ₂ carbon felt as the negative electrode for all-vanadium redox flow batteries. <i>Carbon</i> , 2019, 148, 91-104.	5.4	51
100	Stochastic simulation model for the 3D morphology of composite materials in Li-ion batteries. <i>Computational Materials Science</i> , 2011, 50, 3365-3376.	1.4	50
101	Multi-scale 3D investigations of a commercial 18650 Li-ion battery with correlative electron- and X-ray microscopy. <i>Journal of Power Sources</i> , 2017, 357, 77-86.	4.0	50
102	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.	5.2	50
103	Four-Dimensional Studies of Morphology Evolution in Lithium-Sulfur Batteries. <i>ACS Applied Energy Materials</i> , 2018, 1, 5090-5100.	2.5	49
104	Co-gasification of beech-wood and polyethylene in a fluidized-bed reactor. <i>Fuel Processing Technology</i> , 2019, 190, 29-37.	3.7	49
105	3D morphological evolution of Li-ion battery negative electrode LiVO ₂ during oxidation using X-ray nano-tomography. <i>Electrochemistry Communications</i> , 2012, 21, 58-61.	2.3	48
106	Multi-length scale microstructural design of lithium-ion battery electrodes for improved discharge rate performance. <i>Energy and Environmental Science</i> , 2021, 14, 5929-5946.	15.6	48
107	Modelling the effects of measured anode triple-phase boundary densities on the performance of micro-tubular hollow fiber SOFCs. <i>Solid State Ionics</i> , 2011, 192, 494-500.	1.3	47
108	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.	2.6	47

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109	Investigating the evolving microstructure of lithium metal electrodes in 3D using X-ray computed tomography. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 22111-22120.	1.3	47
110	Cracking predictions of lithium-ion battery electrodes by X-ray computed tomography and modelling. <i>Journal of Power Sources</i> , 2022, 526, 231119.	4.0	47
111	Hydrogen Oxidation on PdIr/C Catalysts in Alkaline Media. <i>Journal of the Electrochemical Society</i> , 2014, 161, F458-F463.	1.3	46
112	VO ₂ nano-sheet negative electrodes for lithium-ion batteries. <i>Electrochemistry Communications</i> , 2016, 64, 56-60.	2.3	46
113	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.	4.0	46
114	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.	4.0	45
115	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.	3.8	45
116	What Happens Inside a Fuel Cell? Developing an Experimental Functional Map of Fuel Cell Performance. <i>ChemPhysChem</i> , 2010, 11, 2714-2731.	1.0	44
117	The use of contrast enhancement techniques in X-ray imaging of lithium-ion battery electrodes. <i>Chemical Engineering Science</i> , 2016, 154, 27-33.	1.9	43
118	Novel laboratory investigation of huff-n-puff gas injection for shale oils under realistic reservoir conditions. <i>Fuel</i> , 2021, 284, 118950.	3.4	43
119	In situ compression and X-ray computed tomography of flow battery electrodes. <i>Journal of Energy Chemistry</i> , 2018, 27, 1353-1361.	7.1	42
120	New insights into the electrochemical behaviour of porous carbon electrodes for supercapacitors. <i>Journal of Energy Storage</i> , 2018, 19, 337-347.	3.9	42
121	High-Density Lignin-Derived Carbon Nanofiber Supercapacitors with Enhanced Volumetric Energy Density. <i>Advanced Science</i> , 2021, 8, e2100016.	5.6	42
122	Correlative study of microstructure and performance for porous transport layers in polymer electrolyte membrane water electrolyzers by X-ray computed tomography and electrochemical characterization. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 19519-19532.	3.8	41
123	Characterization of water management in metal foam flow-field based polymer electrolyte fuel cells using in-operando neutron radiography. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 2195-2205.	3.8	41
124	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.	4.0	41
125	Mass transport in polymer electrolyte membrane water electrolyser liquid-gas diffusion layers: A combined neutron imaging and X-ray computed tomography study. <i>Journal of Power Sources</i> , 2020, 455, 227968.	4.0	41
126	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.	10.2	41

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127	Dendrite suppression by anode polishing in zinc-ion batteries. <i>Journal of Materials Chemistry A</i> , 2021, 9, 15355-15362.	5.2	41
128	Characterizing Batteries by In Situ Electrochemical Atomic Force Microscopy: A Critical Review. <i>Advanced Energy Materials</i> , 2021, 11, 2101518.	10.2	40
129	Development of open-cathode polymer electrolyte fuel cells using printed circuit board flow-field plates: Flow geometry characterisation. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 18326-18336.	3.8	39
130	Crack detection in lithium-ion cells using machine learning. <i>Computational Materials Science</i> , 2017, 136, 297-305.	1.4	39
131	Investigation of cycling-induced microstructural degradation in silicon-based electrodes in lithium-ion batteries using X-ray nanotomography. <i>Electrochimica Acta</i> , 2017, 253, 85-92.	2.6	39
132	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.	1.3	39
133	Highly conductive low nickel content nano-composite dense cermets from nano-powders made via a continuous hydrothermal synthesis route. <i>Solid State Ionics</i> , 2010, 181, 827-834.	1.3	38
134	In Situ X-Ray Spectroscopy and Imaging of Battery Materials. <i>Electrochemical Society Interface</i> , 2011, 20, 43-47.	0.3	38
135	A Dilatometric Study of Graphite Electrodes during Cycling with X-ray Computed Tomography. <i>Journal of the Electrochemical Society</i> , 2021, 168, 010507.	1.3	38
136	High capacity nanocomposite Fe ₃ O ₄ /Fe anodes for Li-ion batteries. <i>Journal of Power Sources</i> , 2015, 291, 102-107.	4.0	37
137	Nitrogen Blanketing and Hydrogen Starvation in Dead-Ended-Anode Polymer Electrolyte Fuel Cells Revealed by Hydro-Electro-Thermal Analysis. <i>Electrochimica Acta</i> , 2016, 203, 198-205.	2.6	37
138	4D nano-tomography of electrochemical energy devices using lab-based X-ray imaging. <i>Nano Energy</i> , 2018, 47, 556-565.	8.2	37
139	Capillaries for water management in polymer electrolyte membrane fuel cells. <i>International Journal of Hydrogen Energy</i> , 2018, 43, 21949-21958.	3.8	37
140	Examining the Cycling Behaviour of Li-Ion Batteries Using Ultrasonic Time-of-Flight Measurements. <i>Journal of Power Sources</i> , 2019, 444, 227318.	4.0	37
141	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.	2.5	37
142	CuCo ₂ S ₄ nanocrystals as a nanoplatform for photothermal therapy of arterial inflammation. <i>Nanoscale</i> , 2019, 11, 9733-9742.	2.8	37
143	Lignin-derived electrospun freestanding carbons as alternative electrodes for redox flow batteries. <i>Carbon</i> , 2020, 157, 847-856.	5.4	37
144	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.	0.8	37

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145	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.	1.3	37
146	Identifying Defects in Li-Ion Cells Using Ultrasound Acoustic Measurements. <i>Journal of the Electrochemical Society</i> , 2020, 167, 120530.	1.3	37
147	Communication—Prediction of Thermal Issues for Larger Format 4680 Cylindrical Cells and Their Mitigation with Enhanced Current Collection. <i>Journal of the Electrochemical Society</i> , 2020, 167, 160544.	1.3	37
148	Reduction Dynamics of Doped Ceria, Nickel Oxide, and Cermet Composites Probed Using In Situ Raman Spectroscopy. <i>Advanced Science</i> , 2016, 3, 1500146.	5.6	36
149	Characterisation of the diffusion properties of metal foam hybrid flow-fields for fuel cells using optical flow visualisation and X-ray computed tomography. <i>Journal of Power Sources</i> , 2018, 395, 171-178.	4.0	36
150	Correlating electrochemical impedance with hierarchical structure for porous carbon-based supercapacitors using a truncated transmission line model. <i>Electrochimica Acta</i> , 2018, 284, 597-608.	2.6	36
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