David L Wood Iii

List of Publications by Year
in descending order

100 papers	12,026 citations	43973 48 h-index	35952 97 g-index
110 all docs	110 docs citations	110 times ranked	11628 citing authors

#	Article	IF	Citations
1	Scientific Aspects of Polymer Electrolyte Fuel Cell Durability and Degradation. Chemical Reviews, 2007, 107, 3904-3951.	23.0	2,976
2	The state of understanding of the lithium-ion-battery graphite solid electrolyte interphase (SEI) and its relationship to formation cycling. Carbon, 2016, 105, 52-76.	5.4	1,335
3	Prospects for reducing the processing cost of lithium ion batteries. Journal of Power Sources, 2015, 275, 234-242.	4.0	588
4	Structural transformation of a lithium-rich Li1.2Co0.1Mn0.55Ni0.15O2 cathode during high voltage cycling resolved by in situ X-ray diffraction. Journal of Power Sources, 2013, 229, 239-248.	4.0	472
5	PEM fuel cell electrocatalyst durability measurements. Journal of Power Sources, 2006, 163, 76-81.	4.0	437
6	Materials processing for lithium-ion batteries. Journal of Power Sources, 2011, 196, 2452-2460.	4.0	343
7	Durability of PEFCs at High Humidity Conditions. Journal of the Electrochemical Society, 2005, 152, A104.	1.3	332
8	Microstructural Changes of Membrane Electrode Assemblies during PEFC Durability Testing at High Humidity Conditions. Journal of the Electrochemical Society, 2005, 152, A1011.	1.3	328
9	Effect of direct liquid water injection and interdigitated flow field on the performance of proton exchange membrane fuel cells. Electrochimica Acta, 1998, 43, 3795-3809.	2.6	260
10	Unraveling the Voltage-Fade Mechanism in High-Energy-Density Lithium-Ion Batteries: Origin of the Tetrahedral Cations for Spinel Conversion. Chemistry of Materials, 2014, 26, 6272-6280.	3.2	236
11	Understanding limiting factors in thick electrode performance as applied to high energy density Li-ion batteries. Journal of Applied Electrochemistry, 2017, 47, 405-415.	1.5	217
12	Modification of Ni-Rich FCG NMC and NCA Cathodes by Atomic Layer Deposition: Preventing Surface Phase Transitions for High-Voltage Lithium-Ion Batteries. Scientific Reports, 2016, 6, 26532.	1.6	196
13	Toward Low-Cost, High-Energy Density, and High-Power Density Lithium-Ion Batteries. Jom, 2017, 69, 1484-1496.	0.9	186
14	Technical and economic analysis of solvent-based lithium-ion electrode drying with water and NMP. Drying Technology, 2018, 36, 234-244.	1.7	158
15	Chemical stability and long-term cell performance of low-cobalt, Ni-Rich cathodes prepared by aqueous processing for high-energy Li-Ion batteries. Energy Storage Materials, 2020, 24, 188-197.	9.5	155
16	Effect of electrode manufacturing defects on electrochemical performance of lithium-ion batteries: Cognizance of the battery failure sources. Journal of Power Sources, 2016, 312, 70-79.	4.0	132
17	Investigating phase transformation in the Li1.2Co0.1Mn0.55Ni0.15O2 lithium-ion battery cathode during high-voltage hold (4.5 V) via magnetic, X-ray diffraction and electron microscopy studies. Journal of Materials Chemistry A, 2013, 1, 6249.	5.2	125
18	Fast formation cycling for lithium ion batteries. Journal of Power Sources, 2017, 342, 846-852.	4.0	119

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19	Nafion Structural Phenomena at Platinum and Carbon Interfaces. Journal of the American Chemical Society, 2009, 131, 18096-18104.	6.6	118
20	Enabling aqueous processing for crack-free thick electrodes. Journal of Power Sources, 2017, 354, 200-206.	4.0	112
21	Correlating cation ordering and voltage fade in a lithiumâ€“manganese-rich lithium-ion battery cathode oxide: a joint magnetic susceptibility and TEM study. Physical Chemistry Chemical Physics, 2013, 15, 19496.	1.3	108
22	Enabling fast charging of high energy density Li-ion cells with high lithium ion transport electrolytes. Electrochemistry Communications, 2019, 103, 109-113.	2.3	106
23	Influence of ionomer content on the structure and performance of PEFC membrane electrode assemblies. Electrochimica Acta, 2010, 55, 7404-7412.	2.6	100
24	Optimization of LiFePO₄ Nanoparticle Suspensions with Polyethyleneimine for Aqueous Processing. Langmuir, 2012, 28, 3783-3790.	1.6	89
25	Neutron Diffraction and Magnetic Susceptibility Studies on a High-Voltage Li_{1.2}Mn_{0.55}Ni_{0.15}Co_{0.10}O₂ Lithium Ion Battery Cathode: Insight into the Crystal Structure. Chemistry of Materials, 2013, 25, 4064-4070.	3.2	89
26	Lithium Ion Cell Performance Enhancement Using Aqueous LiFePO₄Cathode Dispersions and Polyethyleneimine Dispersant. Journal of the Electrochemical Society, 2013, 160, A201-A206.	1.3	88
27	Formation Challenges of Lithium-Ion Battery Manufacturing. Joule, 2019, 3, 2884-2888.	11.7	86
28	Evaluation Residual Moisture in Lithium-Ion Battery Electrodes and Its Effect on Electrode Performance. MRS Advances, 2016, 1, 1029-1035.	0.5	78
29	Effect of Binder Architecture on the Performance of Silicon/Graphite Composite Anodes for Lithium Ion Batteries. ACS Applied Materials & Interfaces, 2018, 10, 3470-3478.	4.0	77
30	Water-Based Electrode Manufacturing and Direct Recycling of Lithium-Ion Battery Electrodesâ€”A Green and Sustainable Manufacturing System. IScience, 2020, 23, 101081.	1.9	74
31	Optimization of multicomponent aqueous suspensions of lithium iron phosphate (LiFePO4) nanoparticles and carbon black for lithium-ion battery cathodes. Journal of Colloid and Interface Science, 2013, 405, 118-124.	5.0	69
32	What makes lithium substituted polyacrylic acid a better binder than polyacrylic acid for silicon-graphite composite anodes?. Journal of Power Sources, 2018, 384, 136-144.	4.0	69
33	In Situ Determination of the Liquid/Solid Interface Thickness and Composition for the Li Ion Cathode LiMn_{1.5}Ni_{0.5}O₄. ACS Applied Materials & Interfaces, 2014, 6, 18569-18576.	4.0	68
34	Superior Performance of LiFePO₄Aqueous Dispersions via Corona Treatment and Surface Energy Optimization. Journal of the Electrochemical Society, 2012, 159, A1152-A1157.	1.3	65
35	Electrolyte Volume Effects on Electrochemical Performance and Solid Electrolyte Interphase in Si-Graphite/NMC Lithium-Ion Pouch Cells. ACS Applied Materials & Interfaces, 2017, 9, 18799-18808.	4.0	65
36	Selecting the Best Graphite for Long-Life, High-Energy Li-Ion Batteries. Journal of the Electrochemical Society, 2018, 165, A1837-A1845.	1.3	65

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37	Correlation of Electrolyte Volume and Electrochemical Performance in Lithium-Ion Pouch Cells with Graphite Anodes and NMC532 Cathodes. Journal of the Electrochemical Society, 2017, 164, A1195-A1202.	1.3	64
38	Analysis of electrolyte imbibition through lithium-ion battery electrodes. Journal of Power Sources, 2019, 424, 193-203.	4.0	61
39	Lithium and transition metal dissolution due to aqueous processing in lithium-ion battery cathode active materials. Journal of Power Sources, 2020, 466, 228315.	4.0	61
40	Cathode materials review. AIP Conference Proceedings, 2014, , .	0.3	60
41	Towards Understanding of Cracking during Drying of Thick Aqueous-Processed LiNi_{0.8}Mn_{0.1}Co_{0.1}O₂ Cathodes. ACS Sustainable Chemistry and Engineering, 2020, 8, 3162-3169.	3.2	59
42	Design and Demonstration of Three-Electrode Pouch Cells for Lithium-Ion Batteries. Journal of the Electrochemical Society, 2017, 164, A1755-A1764.	1.3	57
43	Balancing formation time and electrochemical performance of high energy lithium-ion batteries. Journal of Power Sources, 2018, 402, 107-115.	4.0	56
44	Perspectives on the relationship between materials chemistry and roll-to-roll electrode manufacturing for high-energy lithium-ion batteries. Energy Storage Materials, 2020, 29, 254-265.	9.5	54
45	Characterization of Surface Free Energy of Composite Electrodes for Lithium-Ion Batteries. Journal of the Electrochemical Society, 2018, 165, A2493-A2501.	1.3	52
46	Effect of calendering and temperature on electrolyte wetting in lithium-ion battery electrodes. Journal of Energy Storage, 2019, 26, 101034.	3.9	52
47	Surface Properties of PEMFC Gas Diffusion Layers. Journal of the Electrochemical Society, 2010, 157, B195.	1.3	51
48	Advanced surface and microstructural characterization of natural graphite anodes for lithium ion batteries. Carbon, 2014, 72, 393-401.	5.4	50
49	Chemical Evolution in Siliconâ€“Graphite Composite Anodes Investigated by Vibrational Spectroscopy. ACS Applied Materials & Interfaces, 2018, 10, 18641-18649.	4.0	50
50	Evaluation of Gas Formation and Consumption Driven by Crossover Effect in High-Voltage Lithium-Ion Batteries with Ni-Rich NMC Cathodes. ACS Applied Materials & Interfaces, 2019, 11, 43235-43243.	4.0	50
51	PEM Fuel Cell Durability With Transportation Transient Operation. ECS Transactions, 2006, 3, 879-886.	0.3	49
52	Degradation mechanisms of lithium-rich nickel manganese cobalt oxide cathode thin films. RSC Advances, 2014, 4, 23364.	1.7	45
53	Structural transformation in a Li1.2Co0.1Mn0.55Ni0.15O2 lithium-ion battery cathode during high-voltage hold. RSC Advances, 2013, 3, 7479.	1.7	44
54	Understanding the structure and structural degradation mechanisms in high-voltage, lithium-manganeseâ€“rich lithium-ion battery cathode oxides: A review of materials diagnostics. MRS Energy & Sustainability, 2015, 2, 1.	1.3	42

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55	Non-destructive evaluation of slot-die-coated lithium secondary battery electrodes by in-line laser caliper and IR thermography methods. Analytical Methods, 2014, 6, 674-683.	1.3	41
56	Unveiling the Role of Al₂O₃ in Preventing Surface Reconstruction During High-Voltage Cycling of Lithium-Ion Batteries. ACS Applied Energy Materials, 2019, 2, 1308-1313.	2.5	41
57	Impact of secondary particle size and two-layer architectures on the high-rate performance of thick electrodes in lithium-ion battery pouch cells. Journal of Power Sources, 2021, 515, 230429.	4.0	41
58	Improving Contact Impedance via Electrochemical Pulses Applied to Lithiumâ€“Solid Electrolyte Interface in Solid-State Batteries. ACS Energy Letters, 2021, 6, 3669-3675.	8.8	40
59	Three-dimensional conductive network formed by carbon nanotubes in aqueous processed NMC electrode. Electrochimica Acta, 2018, 270, 54-61.	2.6	39
60	Identifying degradation mechanisms in lithium-ion batteries with coating defects at the cathode. Applied Energy, 2018, 231, 446-455.	5.1	39
61	Drying Temperature and Capillarity-Driven Crack Formation in Aqueous Processing of Li-Ion Battery Electrodes. ACS Applied Energy Materials, 2019, 2, 4464-4476.	2.5	39
62	On electrolyte wetting through lithium-ion battery separators. Extreme Mechanics Letters, 2020, 40, 100960.	2.0	38
63	Aqueous Ni-rich-cathode dispersions processed with phosphoric acid for lithium-ion batteries with ultra-thick electrodes. Journal of Colloid and Interface Science, 2021, 581, 635-643.	5.0	34
64	Long-Term Lithium-Ion Battery Performance Improvement via Ultraviolet Light Treatment of the Graphite Anode. Journal of the Electrochemical Society, 2016, 163, A2866-A2875.	1.3	31
65	Electrochemical Healing of Dendrites in Garnet-Based Solid Electrolytes. ACS Energy Letters, 2020, 5, 3368-3373.	8.8	31
66	Resolving the degradation pathways in high-voltage oxides for high-energy-density lithium-ion batteries; Alternation in chemistry, composition and crystal structures. Nano Energy, 2017, 36, 76-84.	8.2	30
67	Effect of overcharge on Li(Ni0.5Mn0.3Co0.2)O2/graphite lithium ion cells with poly(vinylidene) Tj ETQq1 1 0.784314 rgBT /Overlock	4.0	29
68	Probing Thermal Stability of Li-Ion Battery Ni-Rich Layered Oxide Cathodes by means of Operando Gas Analysis and Neutron Diffraction. ACS Applied Energy Materials, 2020, 3, 7058-7065.	2.5	28
69	Estimation of Mass-Transport Overpotentials during Long-Term PEMFC Operation. Journal of the Electrochemical Society, 2010, 157, B1251.	1.3	27
70	Processingâ€“Structureâ€“Property Relationships for Ligninâ€Based Carbonaceous Materials Used in Energyâ€Storage Applications. Energy Technology, 2017, 5, 1311-1321.	1.8	27
71	Effect of overcharge on Li(Ni0.5Mn0.3Co0.2)O2/Graphite lithium ion cells with poly(vinylidene) Tj ETQq1 1 0.784314 rgBT /Overlock 148-155.	4.0	26
72	Slot-die-coating operability windows for polymer electrolyte membrane fuel cell cathode catalyst layers. Journal of Colloid and Interface Science, 2022, 610, 474-485.	5.0	25

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73	Si Oxidation and H₂ Gassing During Aqueous Slurry Preparation for Li-Ion Battery Anodes. Journal of Physical Chemistry C, 2018, 122, 9746-9754.	1.5	23
74	Electron Beam Curing of Composite Positive Electrode for Li-Ion Battery. Journal of the Electrochemical Society, 2016, 163, A2776-A2780.	1.3	21
75	Eutectic Synthesis of the P2-Type Na_xFe_{1/2}Mn_{1/2}O₂ Cathode with Improved Cell Design for Sodium-Ion Batteries. ACS Applied Materials & Interfaces, 2020, 12, 23951-23958.	4.0	21
76	Na_{1+x}Mn_{x/2}Zr_{2â€“x/2}(PO₄)₃ as a Li⁺ and Na⁺ Super Ion Conductor for Solid-State Batteries. ACS Energy Letters, 2021, 6, 429-436.	8.8	20
77	High accuracy in-situ direct gas analysis of Li-ion batteries. Journal of Power Sources, 2020, 466, 228211.	4.0	20
78	Effect of overcharge on Li(Ni0.5Mn0.3Co0.2)O2 cathodes: NMP-soluble binder. II â€” Chemical changes in the anode. Journal of Power Sources, 2018, 385, 156-164.	4.0	18
79	PEMFC Component Characterization and Its Relationship to Mass-Transport Overpotentials during Long-Term Testing. ECS Transactions, 2006, 3, 753-763.	0.3	17
80	Unconventional irreversible structural changes in a high-voltage Liâ€“Mn-rich oxide for lithium-ion battery cathodes. Journal of Power Sources, 2015, 283, 423-428.	4.0	17
81	Highâ€“Speed electron beam curing of thick electrode for high energy density Li-ion batteries. Green Energy and Environment, 2019, 4, 375-381.	4.7	17
82	Durability Aspects of Gas-Diffusion and Microporous Layers. , 2009, , 159-195.		15
83	Styrene-Based Elastomer Composites with Functionalized Graphene Oxide and Silica Nanofiber Fillers: Mechanical and Thermal Conductivity Properties. Nanomaterials, 2020, 10, 1682.	1.9	14
84	Evaporation induced nanoparticle â€“ binder interaction in electrode film formation. Physical Chemistry Chemical Physics, 2017, 19, 10051-10061.	1.3	13
85	Highâ€Voltage Performance of Niâ€Rich NCA Cathodes: Linking Operating Voltage with Cathode Degradation. ChemElectroChem, 2019, 6, 5571-5580.	1.7	13
86	Characterization and analyses of degradation and recovery of LaNi4.78Sn0.22 hydrides following thermal aging. Journal of Alloys and Compounds, 2013, 580, S207-S210.	2.8	12
87	Si alloy/graphite coating design as anode for Li-ion batteries with high volumetric energy density. Electrochimica Acta, 2017, 254, 123-129.	2.6	12
88	Effect of formation protocol: Cells containing Si-Graphite composite electrodes. Journal of Power Sources, 2019, 435, 126548.	4.0	12
89	Bulk and surface structural changes in high nickel cathodes subjected to fast charging conditions. Chemical Communications, 2020, 56, 6973-6976.	2.2	11
90	Effects of Ultraviolet Light Treatment in Ambient Air on Lithium-Ion Battery Graphite and PVDF Binder. Journal of the Electrochemical Society, 2019, 166, A1121-A1126.	1.3	9

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91	Effect of overcharge on lithium-ion cells: Silicon/graphite anodes. Journal of Power Sources, 2019, 432, 73-81.	4.0	7
92	Reviewâ€"Electrospun Inorganic Solid-State Electrolyte Fibers for Battery Applications. Journal of the Electrochemical Society, 2022, 169, 050527.	1.3	7
93	In-Plane Mass-Transport Studies of GDL Variation Using the Segmented Cell Approach. ECS Transactions, 2009, 25, 1495-1506.	0.3	6
94	In-line monitoring of Li-ion battery electrode porosity and areal loading using active thermal scanning - modeling and initial experiment. Journal of Power Sources, 2018, 375, 138-148.	4.0	6
95	Effect of overcharge on Li(Ni0.5Mn0.3Co0.2)O2/Graphite cellsâ€"effect of binder. Journal of Power Sources, 2020, 448, 227414.	4.0	6
96	Elucidation of PEMFC Electrocatalyst-Layer Surface and Interfacial Phenomena via Neutron Reflectivity. ECS Transactions, 2006, 3, 1011-1021.	0.3	4
97	Effect of binder on the overcharge response in LiFePO4-containing cells. Journal of Power Sources, 2020, 450, 227595.	4.0	4
98	Advanced Materials Processing for Lithium Ion Battery Applications. ECS Meeting Abstracts, 2012, , .	0.0	0
99	High-Energy and High-Power Lithium-Ion Cells Enabled by Electrochemically Derived Carbon Nanotubes. ECS Meeting Abstracts, 2021, MA2021-02, 528-528.	0.0	0
100	Effects of Processing Time, Mixing Speed, and Mixer on Agglomerates in Fuel Cell Cathode Inks. ECS Meeting Abstracts, 2021, MA2021-02, 1085-1085.	0.0	0