

Michael Metzger

List of Publications by Year in descending order

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papers

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257101

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docs citations

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times ranked

3863
citing authors

#	ARTICLE	IF	CITATIONS
1	Oxygen Release and Its Effect on the Cycling Stability of $\text{LiNi}_{x}\text{Mn}_{y}\text{Co}_{z}\text{O}_{2}$ (NMC) Cathode Materials for Li-Ion Batteries. <i>Journal of the Electrochemical Society</i> , 2017, 164, A1361-A1377.	1.3	813
2	Chemical versus Electrochemical Electrolyte Oxidation on NMC111, NMC622, NMC811, LNMO, and Conductive Carbon. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 4820-4825.	2.1	338
3	Diagnosing and correcting anode-free cell failure via electrolyte and morphological analysis. <i>Nature Energy</i> , 2020, 5, 693-702.	19.8	303
4	Origin of H_{2} Evolution in LIBs: H_{2}O Reduction vs. Electrolyte Oxidation. <i>Journal of the Electrochemical Society</i> , 2016, 163, A798-A809.	1.3	262
5	Consumption of Fluoroethylene Carbonate (FEC) on Si-C Composite Electrodes for Li-Ion Batteries. <i>Journal of the Electrochemical Society</i> , 2016, 163, A1705-A1716.	1.3	229
6	The Influence of Water and Protons on Li_{2}O Crystal Growth in Aprotic Li-O_{2} Cells. <i>Journal of the Electrochemical Society</i> , 2015, 162, A573-A584.	1.3	220
7	Role of 1,3-Propane Sultone and Vinylene Carbonate in Solid Electrolyte Interface Formation and Gas Generation. <i>Journal of Physical Chemistry C</i> , 2015, 119, 11337-11348.	1.5	162
8	Anodic Oxidation of Conductive Carbon and Ethylene Carbonate in High-Voltage Li-Ion Batteries Quantified by On-Line Electrochemical Mass Spectrometry. <i>Journal of the Electrochemical Society</i> , 2015, 162, A1123-A1134.	1.3	151
9	Ambient Storage Derived Surface Contamination of NCM811 and NCM111: Performance Implications and Mitigation Strategies. <i>Journal of the Electrochemical Society</i> , 2019, 166, A2322-A2335.	1.3	132
10	Gas Evolution at Graphite Anodes Depending on Electrolyte Water Content and SEI Quality Studied by On-Line Electrochemical Mass Spectrometry. <i>Journal of the Electrochemical Society</i> , 2015, 162, A1984-A1989.	1.3	120
11	Quantification of PF_{5} and POF_{3} from Side Reactions of LiPF_{6} in Li-Ion Batteries. <i>Journal of the Electrochemical Society</i> , 2018, 165, A3022-A3028.	1.3	115
12	Hydrolysis of Ethylene Carbonate with Water and Hydroxide under Battery Operating Conditions. <i>Journal of the Electrochemical Society</i> , 2016, 163, A1219-A1225.	1.3	96
13	Mesoscale Chemomechanical Interplay of the $\text{LiNi}_{0.8}\text{Co}_{0.15}\text{Al}_{0.05}\text{O}_{2}$ Cathode in Solid-State Polymer Batteries. <i>Chemistry of Materials</i> , 2019, 31, 491-501.	3.2	89
14	Techno-economic analysis of capacitive and intercalative water deionization. <i>Energy and Environmental Science</i> , 2020, 13, 1544-1560.	15.6	76
15	The Effect of CO_{2} on Alkyl Carbonate Trans-Esterification during Formation of Graphite Electrodes in Li-Ion Batteries. <i>Journal of the Electrochemical Society</i> , 2017, 164, A2513-A2526.	1.3	58
16	Carbon Coating Stability on High-Voltage Cathode Materials in H_{2}O -Free and H_{2}O -Containing Electrolyte. <i>Journal of the Electrochemical Society</i> , 2015, 162, A1227-A1235.	1.3	55
17	An Analysis of Artificial and Natural Graphite in Lithium Ion Pouch Cells Using Ultra-High Precision Coulometry, Isothermal Microcalorimetry, Gas Evolution, Long Term Cycling and Pressure Measurements. <i>Journal of the Electrochemical Society</i> , 2017, 164, A3545-A3555.	1.3	53
18	Resistance Growth in Lithium-Ion Pouch Cells with $\text{LiNi}_{0.80}\text{Co}_{0.15}\text{Al}_{0.05}\text{O}_{2}$ Positive Electrodes and Proposed Mechanism for Voltage Dependent Charge-Transfer Resistance. <i>Journal of the Electrochemical Society</i> , 2019, 166, A1779-A1784.	1.3	50

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19	Thermally-driven mesopore formation and oxygen release in delithiated NCA cathode particles. <i>Journal of Materials Chemistry A</i> , 2019, 7, 12593-12603.	5.2	41
20	A Systematic Study of Electrolyte Additives in Single Crystal and Bimodal LiNi _{0.8} Mn _{0.1} Co _{0.1} O ₂ /Graphite Pouch Cells. <i>Journal of the Electrochemical Society</i> , 2021, 168, 090503.	1.3	38
21	Li[Ni _{0.5} Mn _{0.3} Co _{0.2}]O ₂ as a Superior Alternative to LiFePO ₄ for Long-Lived Low Voltage Li-Ion Cells. <i>Journal of the Electrochemical Society</i> , 2022, 169, 050512.	1.3	36
22	Evaluating the High-Voltage Stability of Conductive Carbon and Ethylene Carbonate with Various Lithium Salts. <i>Journal of the Electrochemical Society</i> , 2020, 167, 160522.	1.3	34
23	Vertically Aligned Two-Dimensional Graphene-Metal Hydroxide Hybrid Arrays for Li ⁺ O ₂ Batteries. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 26041-26050.	4.0	30
24	Different Positive Electrodes for Anode-Free Lithium Metal Cells. <i>Journal of the Electrochemical Society</i> , 2022, 169, 040517.	1.3	30
25	Effect of Liquid Electrolyte Soaking on the Interfacial Resistance of Li ₇ La ₃ Zr ₂ O ₁₂ for All-Solid-State Lithium Batteries. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 20605-20612.	4.0	26
26	Probing Heterogeneous Degradation of Catalyst in PEM Fuel Cells under Realistic Automotive Conditions with Multi-Modal Techniques. <i>Advanced Energy Materials</i> , 2021, 11, 2101794.	10.2	25
27	Anodic Decomposition of Trimethylboroxine as Additive for High Voltage Li-Ion Batteries. <i>Journal of the Electrochemical Society</i> , 2014, 161, A2255-A2261.	1.3	24
28	Effect of Substituting LiBF ₄ for LiPF ₆ in High Voltage Lithium-Ion Cells Containing Electrolyte Additives. <i>Journal of the Electrochemical Society</i> , 2016, 163, A1686-A1692.	1.3	24
29	Mapping of Heterogeneous Catalyst Degradation in Polymer Electrolyte Fuel Cells. <i>Advanced Energy Materials</i> , 2020, 10, 2000623.	10.2	24
30	Removal of Na ⁺ and Ca ²⁺ with Prussian blue analogue electrodes for brackish water desalination. <i>Desalination</i> , 2020, 487, 114479.	4.0	23
31	Antimony Doped Tin Oxide—Synthesis, Characterization and Application as Cathode Material in Li-O ₂ Cells: Implications on the Prospect of Carbon-Free Cathodes for Rechargeable Lithium-Air Batteries. <i>Journal of the Electrochemical Society</i> , 2017, 164, A1026-A1036.	1.3	22
32	Impact of Graphite Materials on the Lifetime of NMC811/Graphite Pouch Cells: Part I. Material Properties, ARC Safety Tests, Gas Generation, and Room Temperature Cycling. <i>Journal of the Electrochemical Society</i> , 2021, 168, 110543.	1.3	20
33	Understanding the Origins of Higher Capacities at Faster Rates in Lithium-Excess Li _x Ni ₂ Sb _x O ₂ . <i>Chemistry of Materials</i> , 2017, 29, 2584-2593.	3.2	18
34	Understanding the Overlithiation Properties of LiNi _{0.6} Mn _{0.2} Co _{0.2} O ₂ Using Electrochemistry and Depth-Resolved X-ray Absorption Spectroscopy. <i>Journal of the Electrochemical Society</i> , 2020, 167, 080514.	1.3	17
35	Investigation of Redox Shuttle Generation in LFP/Graphite and NMC811/Graphite Cells. <i>Journal of the Electrochemical Society</i> , 2022, 169, 040518.	1.3	17
36	Effects of Graphite Heat-Treatment Temperature on Single-Crystal Li[Ni ₅ Mn ₃ Co ₂]O ₂ /Graphite Pouch Cells. <i>Journal of the Electrochemical Society</i> , 2020, 167, 080543.	1.3	16

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37	Impact of Graphite Materials on the Lifetime of NMC811/Graphite Pouch Cells: Part II. Long-Term Cycling, Stack Pressure Growth, Isothermal Microcalorimetry, and Lifetime Projection. Journal of the Electrochemical Society, 2022, 169, 010501.	1.3	16
38	The Use of LiFSI and LiTFSI in LiFePO ₄ /Graphite Pouch Cells to Improve High-Temperature Lifetime. Journal of the Electrochemical Society, 2022, 169, 040560.	1.3	14
39	Long-term chemothermal stability of delithiated NCA in polymer solid-state batteries. Journal of Materials Chemistry A, 2019, 7, 27135-27147.	5.2	10
40	A Modified Electrochemical Model to Account for Mechanical Effects Due to Lithium Intercalation and External Pressure. Journal of the Electrochemical Society, 2021, 168, 020533.	1.3	8
41	A Study of Model-Based Protective Fast-Charging and Associated Degradation in Commercial Smartphone Cells: Insights on Cathode Degradation as a Result of Lithium Depositions on the Anode. Advanced Energy Materials, 2021, 11, 2003019.	10.2	7
42	Diagnosing Battery Degradation via Gas Analysis. Energy and Environmental Materials, 2022, 5, 688-692.	7.3	7
43	Reply to the "Comment on "Techno-economic analysis of capacitive and intercalative water deionization" by S. K. Patel, L. Wang and M. Elimelech, Energy Environ. Sci., 2021, 10.1039/D0EE03321A. Energy and Environmental Science, 2021, 14, 2499-2503.	15.6	3
44	Performance and lifetime of intercalative water deionization cells for mono- and divalent ion removal. Desalination, 2021, 517, 115218.	4.0	3
45	Melt Synthesis of Lithium Manganese Iron Phosphate: Part I. Composition, Physical Properties, Structural Analysis, and Charge/Discharge Cycling. Journal of the Electrochemical Society, 2022, 169, 060526.	1.3	2
46	Synergies for longer cycle life. Nature Energy, 2021, 6, 574-575.	19.8	1
47	Location-Dependent Cobalt Deposition in Smartphone Cells upon Long-Term Fast-Charging Visualized by Synchrotron X-ray Fluorescence. Chemistry of Materials, 2021, 33, 6318-6328.	3.2	1
48	Water Effect on the Specific Capacity of Aprotic Li-O ₂ Cells in a Sealed Two-Compartment Cell. ECS Meeting Abstracts, 2014, , .	0.0	1
49	Melt Synthesis of Lithium Manganese Iron Phosphate: Part II. Particle Size, Electrochemical Performance, and Solid-State Lithium Diffusion. Journal of the Electrochemical Society, 2022, 169, 060527.	1.3	1
50	Zwischen Anode und Kathode. Nachrichten Aus Der Chemie, 2017, 65, 645-647.	0.0	0
51	The 2016 H. H. Uhlig Summer Research Fellowship " Summary Report: Role of Conducting Salt on Anodic Stability of Conductive Carbon and Ethylene Carbonate in High-Voltage Li-Ion Cells. Electrochemical Society Interface, 2016, 25, 104-105.	0.3	0
52	Oxygen Evolution and Its Effect on the Cycling Stability of Li _{Nix} M _{ny} Co _z O ₂ (NMC) Cathode Materials for Li-Ion Batteries. ECS Meeting Abstracts, 2017, , .	0.0	0
53	Gas Evolution from Thermal and Electrochemical Side Reactions with Contaminants in Lithium-Ion Batteries. ECS Meeting Abstracts, 2017, , .	0.0	0
54	Surface Contamination of Metal Oxide-Based Battery Active Materials: Performance Implications and Mitigation Strategies. ECS Meeting Abstracts, 2018, , .	0.0	0

#	ARTICLE	IF	CITATIONS
55	Performance and Lifetime of Battery Desalination Cells Based on Nickel Hexacyanoferrate. ECS Meeting Abstracts, 2022, MA2022-01, 142-142.	0.0	0