Claus Daniel

List of Publications by Year
in descending order

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73 papers	6,954 citations	81900 39 h-index	91884 69 g-index
84 all docs	84 docs citations	84 times ranked	7940 citing authors

#	Article	IF	Citations
1	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.	10.3	1,335
2	Prospects for reducing the processing cost of lithium ion batteries. Journal of Power Sources, 2015, 275, 234-242.	7.8	588
3	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.	7.8	472
4	Materials processing for lithium-ion batteries. Journal of Power Sources, 2011, 196, 2452-2460.	7.8	343
5	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.	6.7	236
6	Challenges for and Pathways toward Li-Metal-Based All-Solid-State Batteries. ACS Energy Letters, 0, , 1399-1404.	17.4	228
7	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.	3.3	196
8	Toward Low-Cost, High-Energy Density, and High-Power Density Lithium-Ion Batteries. Jom, 2017, 69, 1484-1496.	1.9	186
9	Materials and processing for lithium-ion batteries. Jom, 2008, 60, 43-48.	1.9	166
10	Technical and economic analysis of solvent-based lithium-ion electrode drying with water and NMP. Drying Technology, 2018, 36, 234-244.	3.1	158
11	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.	18.0	155
12	Visualizing the chemistry and structure dynamics in lithium-ion batteries by in-situ neutron diffraction. Scientific Reports, 2012, 2, 747.	3.3	134
13	High temperature materials for heavy duty diesel engines: Historical and future trends. Progress in Materials Science, 2019, 103, 109-179.	32.8	127
14	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.	10.3	125
15	Understanding the Degradation of Silicon Electrodes for Lithium-Ion Batteries Using Acoustic Emission. Journal of the Electrochemical Society, 2010, 157, A1354.	2.9	122
16	Fast formation cycling for lithium ion batteries. Journal of Power Sources, 2017, 342, 846-852.	7.8	119
17	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.	2.8	108
18	Laser Interference Metallurgy â€“ using interference as a tool for micro/nano structuring. International Journal of Materials Research, 2006, 97, 1337-1344.	0.3	102

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19	Thermal analysis of near-isothermal compressed gas energy storage system. Applied Energy, 2016, 179, 948-960.	10.1	97
20	Optimization of LiFePO₄ Nanoparticle Suspensions with Polyethyleneimine for Aqueous Processing. Langmuir, 2012, 28, 3783-3790.	3.5	89
21	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.	6.7	89
22	Lithium Ion Cell Performance Enhancement Using Aqueous LiFePO₄Cathode Dispersions and Polyethyleneimine Dispersant. Journal of the Electrochemical Society, 2013, 160, A201-A206.	2.9	88
23	Evaluation Residual Moisture in Lithium-Ion Battery Electrodes and Its Effect on Electrode Performance. MRS Advances, 2016, 1, 1029-1035.	0.9	78
24	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.	9.4	69
25	In Situ XRD of Thin Film Tin Electrodes for Lithium Ion Batteries. Journal of the Electrochemical Society, 2012, 159, A294-A299.	2.9	68
26	Superior Performance of LiFePO₄Aqueous Dispersions via Corona Treatment and Surface Energy Optimization. Journal of the Electrochemical Society, 2012, 159, A1152-A1157.	2.9	65
27	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.	8.0	65
28	Design of composite polymer electrolytes for Li ion batteries based on mechanical stability criteria. Journal of Power Sources, 2012, 201, 280-287.	7.8	64
29	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.	2.9	64
30	Heat transfer enhancement in a lithium-ion cell through improved material-level thermal transport. Journal of Power Sources, 2015, 300, 123-131.	7.8	63
31	Wetting behaviour of laser synthetic surface microtextures on Tiâ€“6Alâ€“4V for bioapplication. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 1863-1889.	3.4	61
32	Cathode materials review. AIP Conference Proceedings, 2014, , .	0.4	60
33	Local Detection of Activation Energy for Ionic Transport in Lithium Cobalt Oxide. Nano Letters, 2012, 12, 3399-3403.	9.1	58
34	Design and Demonstration of Three-Electrode Pouch Cells for Lithium-Ion Batteries. Journal of the Electrochemical Society, 2017, 164, A1755-A1764.	2.9	57
35	Evolution of Phase Transformation Behavior in Li(Mn1.5Ni0.5)O4 Cathodes Studied By In Situ XRD. Journal of the Electrochemical Society, 2011, 158, A890.	2.9	45
36	Degradation mechanisms of lithium-rich nickel manganese cobalt oxide cathode thin films. RSC Advances, 2014, 4, 23364.	3.6	45

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37	Structural transformation in a Li1.2Co0.1Mn0.55Ni0.15O2 lithium-ion battery cathode during high-voltage hold. RSC Advances, 2013, 3, 7479.	3.6	44
38	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.	3.0	42
39	Research advances on cobalt-free cathodes for Li-ion batteries - The high voltage LiMn1.5Ni0.5O4 as an example. Journal of Power Sources, 2020, 467, 228318.	7.8	42
40	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.	2.7	41
41	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.	7.8	41
42	In situ atomic force microscopy studies on lithium (de)intercalation-induced morphology changes in Li CoO2 micro-machined thin film electrodes. Journal of Power Sources, 2013, 222, 417-425.	7.8	40
43	Three-dimensional conductive network formed by carbon nanotubes in aqueous processed NMC electrode. Electrochimica Acta, 2018, 270, 54-61.	5.2	39
44	Identifying degradation mechanisms in lithium-ion batteries with coating defects at the cathode. Applied Energy, 2018, 231, 446-455.	10.1	39
45	Analysis of composite electrolytes with sintered reinforcement structure for energy storage applications. Journal of Power Sources, 2013, 241, 178-185.	7.8	37
46	Computational approach to photonic drilling of silicon carbide. International Journal of Advanced Manufacturing Technology, 2009, 45, 704-713.	3.0	34
47	Multifunctional approaches for safe structural batteries. Journal of Energy Storage, 2021, 40, 102747.	8.1	33
48	Novel cell design for combinedin situacoustic emission and x-ray diffraction study during electrochemical cycling of batteries. Review of Scientific Instruments, 2011, 82, 075107.	1.3	31
49	Long-Term Lithium-Ion Battery Performance Improvement via Ultraviolet Light Treatment of the Graphite Anode. Journal of the Electrochemical Society, 2016, 163, A2866-A2875.	2.9	31
50	Synthesis of Ni-Rich Thin-Film Cathode as Model System for Lithium Ion Batteries. ACS Applied Energy Materials, 2019, 2, 1405-1412.	5.1	31
51	Laser induced local and periodic phase transformations in iron oxide thin films obtained by chemical vapour deposition. Applied Surface Science, 2005, 247, 513-517.	6.1	30
52	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.	16.0	30
53	Structural Degradation of High Voltage Lithium Nickel Manganese Cobalt Oxide (NMC) Cathodes in Solid-State Batteries and Implications for Next Generation Energy Storage. ACS Applied Energy Materials, 2020, 3, 1768-1774.	5.1	28
54	Processingâ€“Structureâ€“Property Relationships for Ligninâ€Based Carbonaceous Materials Used in Energyâ€Storage Applications. Energy Technology, 2017, 5, 1311-1321.	3.8	27

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55	Monolithic Composite Electrodes Comprising Silicon Nanoparticles Embedded in Ligninâ€derived Carbon Fibers for Lithiumâ€ion Batteries. Energy Technology, 2014, 2, 773-777.	3.8	22
56	Influence of Binder Coverage on Interfacial Chemistry of Thin Film LiNi_{0.6}Mn_{0.2}Co_{0.2}O₂ Cathodes. Journal of the Electrochemical Society, 2020, 167, 040521.	2.9	18
57	Improving Flexural Strength of Dental Restorative Ceramics Using Laser Interference Direct Structuring. Journal of the American Ceramic Society, 2008, 91, 3455-3457.	3.8	17
58	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.	7.8	17
59	Controlled Evolution of Morphology and Microstructure in Laser Interferenceâ€Structured Zirconia. Journal of the American Ceramic Society, 2008, 91, 2138-2142.	3.8	16
60	Probing the electrolyte/electrode interface with vibrational sum frequency generation spectroscopy: A review. Journal of Power Sources, 2021, 506, 230173.	7.8	12
61	Effective conductivity of particulate polymer composite electrolytes using random resistor network method. Solid State Ionics, 2011, 199-200, 44-53.	2.7	10
62	Electrokinetic delivery of single fluorescent biomolecules in fluidic nanochannels. Proceedings of SPIE, 2008, , .	0.8	9
63	Surface chemistry and composition-induced variation of laser interference-based surface treatment of Al alloys. Applied Surface Science, 2019, 489, 893-904.	6.1	9
64	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.	2.9	9
65	Role of Surface Acidity in the Surface Stabilization of the High-Voltage Cathode LiNi_{0.6}Mn_{0.2}Co_{0.2}O₂. ACS Omega, 2020, 5, 14968-14975.	3.5	8
66	Biomimetic structures for mechanical applications by interfering laser beams: More than solely holographic gratings. Journal of Materials Research, 2006, 21, 2098-2105.	2.6	7
67	Laser process effects on physical texture and wetting in implantable Ti-alloys. Jom, 2010, 62, 76-83.	1.9	7
68	Surface Characterization of Carbon Fiber Polymer Composites and Aluminum Alloys After Laser Interference Structuring. Jom, 2016, 68, 1882-1889.	1.9	7
69	Evaporation due to infrared heating and natural convection. Heat and Mass Transfer, 2020, 56, 2585-2593.	2.1	4
70	Surface Modification of Carbon Fiber Polymer Composites after Laser Structuring. , 2015, , 297-309.		1
71	Dispersant and Mixing Sequence Effects in LiFePO4 Processing. ECS Meeting Abstracts, 2012, , .	0.0	0
72	Advanced Materials Processing for Lithium Ion Battery Applications. ECS Meeting Abstracts, 2012, , .	0.0	0

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73	Surface Chemistry of LiFePO4 for Aqueous Processing. ECS Meeting Abstracts, 2010, , .	0.0	0