Daniel Buchholz

List of Publications by Year
in descending order

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47 papers	6,573 citations	136740 32 h-index	197535 49 g-index
50 all docs	50 docs citations	50 times ranked	6998 citing authors

#	Article	IF	Citations
1	A cost and resource analysis of sodium-ion batteries. Nature Reviews Materials, 2018, 3, .	23.3	1,463
2	Hard carbons for sodium-ion batteries: Structure, analysis, sustainability, and electrochemistry. Materials Today, 2019, 23, 87-104.	8.3	537
3	Alternative binders for sustainable electrochemical energy storage â€“ the transition to aqueous electrode processing and bio-derived polymers. Energy and Environmental Science, 2018, 11, 3096-3127.	15.6	379
4	Non-Aqueous K-Ion Battery Based on Layered K_{0.3}MnO₂and Hard Carbon/Carbon Black. Journal of the Electrochemical Society, 2016, 163, A1295-A1299.	1.3	349
5	Anatase TiO2 nanoparticles for high power sodium-ion anodes. Journal of Power Sources, 2014, 251, 379-385.	4.0	297
6	Unfolding the Mechanism of Sodium Insertion in Anatase TiO₂ Nanoparticles. Advanced Energy Materials, 2015, 5, 1401142.	10.2	293
7	Life cycle assessment of sodium-ion batteries. Energy and Environmental Science, 2016, 9, 1744-1751.	15.6	224
8	Extraordinary Performance of Carbonâ€Coated Anatase TiO₂ as Sodiumâ€Ion Anode. Advanced Energy Materials, 2016, 6, 1501489.	10.2	205
9	High Performance Na_{0.5}[Ni_{0.23}Fe_{0.13}Mn_{0.63}]O₂ Cathode for Sodiumâ€Ion Batteries. Advanced Energy Materials, 2014, 4, 1400083.	10.2	204
10	Appleâ€Biowasteâ€Derived Hard Carbon as a Powerful Anode Material for Naâ€Ion Batteries. ChemElectroChem, 2016, 3, 292-298.	1.7	201
11	Toward Na-ion Batteriesâ€"Synthesis and Characterization of a Novel High Capacity Na Ion Intercalation Material. Chemistry of Materials, 2013, 25, 142-148.	3.2	192
12	A Comparative Study of Layered Transition Metal Oxide Cathodes for Application in Sodium-Ion Battery. ACS Applied Materials & Interfaces, 2015, 7, 5206-5212.	4.0	162
13	Water sensitivity of layered P2/P3-Na_xNi_{0.22}Co_{0.11}Mn_{0.66}O₂ cathode material. Journal of Materials Chemistry A, 2014, 2, 13415-13421.	5.2	159
14	Layered Naâ€Ion Cathodes with Outstanding Performance Resulting from the Synergetic Effect of Mixed Pâ€•and Oâ€Type Phases. Advanced Energy Materials, 2016, 6, 1501555.	10.2	156
15	A sodium-ion battery exploiting layered oxide cathode, graphite anode and glyme-based electrolyte. Journal of Power Sources, 2016, 310, 26-31.	4.0	144
16	Unexpected performance of layered sodium-ion cathode material inÂionic liquid-based electrolyte. Journal of Power Sources, 2014, 247, 377-383.	4.0	125
17	Pectin, Hemicellulose, or Lignin? Impact of the Biowaste Source on the Performance of Hard Carbons for Sodiumâ€Ion Batteries. ChemSusChem, 2017, 10, 2668-2676.	3.6	125
18	Nanocrystalline TiO₂(B) as Anode Material for Sodium-Ion Batteries. Journal of the Electrochemical Society, 2015, 162, A3052-A3058.	1.3	108

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19	Mg-doping for improved long-term cyclability of layered Na-ion cathode materials â€“ The example of P2-type NaxMg0.11Mn0.89O2. Journal of Power Sources, 2015, 282, 581-585.	4.0	108
20	Non-aqueous potassium-ion batteries: a review. Current Opinion in Electrochemistry, 2018, 9, 41-48.	2.5	108
21	P2-type layered Na0.45Ni0.22Co0.11Mn0.66O2 as intercalation host material for lithium and sodium batteries. Electrochimica Acta, 2013, 110, 208-213.	2.6	87
22	Carbon coated lithium sulfide particles for lithium battery cathodes. Journal of Power Sources, 2013, 235, 220-225.	4.0	84
23	Embedding tin nanoparticles in micron-sized disordered carbon for lithium- and sodium-ion anodes. Electrochimica Acta, 2014, 128, 163-171.	2.6	84
24	Towards Highâ€Performance Aqueous Sodiumâ€Ion Batteries: Stabilizing the Solid/Liquid Interface for NASICONâ€Type Na₂VTi(PO₄)₃ using Concentrated Electrolytes. ChemSusChem, 2018, 11, 1382-1389.	3.6	75
25	Aqueous Processing of Na_{0.44}MnO₂ Cathode Material for the Development of Greener Na-Ion Batteries. ACS Applied Materials & Interfaces, 2017, 9, 34891-34899.	4.0	60
26	Effects of nitrogen doping on the structure and performance of carbon coated Na3V2(PO4)3 cathodes for sodium-ion batteries. Carbon, 2017, 124, 334-341.	5.4	55
27	Xâ€ray Absorption Spectroscopy Investigation of Lithiumâ€Rich, Cobaltâ€Poor Layeredâ€Oxide Cathode Material with High Capacity. ChemElectroChem, 2015, 2, 85-97.	1.7	54
28	Exploring the Ni redox activity in polyanionic compounds as conceivable high potential cathodes for Na rechargeable batteries. NPG Asia Materials, 2017, 9, e370-e370.	3.8	52
29	Exploring the Low Voltage Behavior of V₂O₅Aerogel as Intercalation Host for Sodium Ion Battery. Journal of the Electrochemical Society, 2015, 162, A2723-A2728.	1.3	51
30	Non-aqueous semi-solid flow battery based on Na-ion chemistry. P2-type Na_xNi_{0.22}Co_{0.11}Mn_{0.66}O₂â€“NaTi₂(PO₄) Chemical Communications, 2015, 51, 7298-7301.	4.9	49
31	Impact of the Acid Treatment on Lignocellulosic Biomass Hard Carbon for Sodiumâ€Ion Battery Anodes. ChemSusChem, 2018, 11, 3276-3285.	3.6	49
32	Influence of Salt Concentration on the Properties of Sodiumâ€Based Electrolytes. Small Methods, 2019, 3, 1800208.	4.6	36
33	Combining ionic liquid-based electrolytes and nanostructured anatase TiO2 anodes for intrinsically safer sodium-ion batteries. Electrochimica Acta, 2016, 203, 109-116.	2.6	32
34	Excellent Cycling Stability and Superior Rate Capability of Na₃V₂(PO₄)₃ Cathodes Enabled by Nitrogenâ€Doped Carbon Interpenetration for Sodiumâ€Ion Batteries. ChemElectroChem, 2017, 4, 1256-1263.	1.7	32
35	Addressing the energy sustainability of biowaste-derived hard carbon materials for battery electrodes. Green Chemistry, 2018, 20, 1527-1537.	4.6	32
36	Beneficial effect of boron in layered sodium-ion cathode materialsÂâ€“ÂThe example of Na 2/3 B 0.11 Mn 0.89 O 2. Journal of Power Sources, 2017, 364, 33-40.	4.0	28

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37	Research Update: Hard carbon with closed pores from pectin-free apple pomace waste for Na-ion batteries. APL Materials, 2018, 6, 047501.	2.2	26
38	High-Efficiency Sodium-Ion Battery Based on NASICON Electrodes with High Power and Long Lifespan. ACS Applied Energy Materials, 2018, 1, 6425-6432.	2.5	25
39	Development and Characterization of Highâ€Performance Sodiumâ€Ion Cells based on Layered Oxide and Hard Carbon. ChemElectroChem, 2016, 3, 1124-1132.	1.7	23
40	Synthesis, Structure, and Sodium Mobility of Sodium Vanadium Nitridophosphate: A Zero-Strain and Safe High Voltage Cathode Material for Sodium-Ion Batteries. Energies, 2017, 10, 889.	1.6	22
41	In Situ Investigation of Layered Oxides with Mixed Structures for Sodiumâ€Ion Batteries. Small Methods, 2019, 3, 1900239.	4.6	20
42	Study of the Na Storage Mechanism in Silicon Oxycarbideâ€”Evidence for Reversible Silicon Redox Activity. Small Methods, 2019, 3, 1800177.	4.6	19
43	High-Performance Na0.44MnO2 Slabs for Sodium-Ion Batteries Obtained through Urea-Based Solution Combustion Synthesis. Batteries, 2018, 4, 8.	2.1	13
44	Structural Investigation of Quaternary Layered Oxides upon Na-Ion Deinsertion. Inorganic Chemistry, 2020, 59, 7408-7414.	1.9	9
45	Monitoring the Sodiation Mechanism of Anatase TiO₂ Nanoparticle-Based Electrodes for Sodium-Ion Batteries by Operando XANES Measurements. ACS Applied Energy Materials, 2021, 4, 164-175.	2.5	9
46	Development and Characterization of Highâ€Performance Sodiumâ€Ion Cells based on Layered Oxide and Hard Carbon. ChemElectroChem, 2016, 3, 1030-1030.	1.7	3
47	Local structure modification in lithium rich layered Li-Mn-O cathode material. Journal of Physics: Conference Series, 2016, 712, 012130.	0.3	2