

# Guoying Chen

## List of Publications by Year in descending order

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58  
papers

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citations

109137

35  
h-index

161609

54  
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58  
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58  
docs citations

58  
times ranked

5012  
citing authors

#	ARTICLE	IF	CITATIONS
1	Electron Microscopy Study of the LiFePO <sub>4</sub> to FePO <sub>4</sub> Phase Transition. <i>Electrochemical and Solid-State Letters</i> , 2006, 9, A295.	2.2	532
2	The origin of high electrolyte-electrode interfacial resistances in lithium cells containing garnet type solid electrolytes. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 18294-18300.	1.3	431
3	Effect of Surface Microstructure on Electrochemical Performance of Garnet Solid Electrolytes. <i>ACS Applied Materials &amp; Interfaces</i> , 2015, 7, 2073-2081.	4.0	347
4	Injection of oxygen vacancies in the bulk lattice of layered cathodes. <i>Nature Nanotechnology</i> , 2019, 14, 602-608.	15.6	321
5	Li <sub>2</sub> CO <sub>3</sub> in LiNi <sub>0.8</sub> Co <sub>0.15</sub> Al <sub>0.05</sub> O <sub>2</sub> cathodes and its effects on capacity and power. <i>Journal of Power Sources</i> , 2004, 134, 293-297.	4.0	266
6	Interrelationships among Grain Size, Surface Composition, Air Stability, and Interfacial Resistance of Al-Substituted Li <sub>7</sub> La <sub>3</sub> Zr <sub>2</sub> O <sub>12</sub> Solid Electrolytes. <i>ACS Applied Materials &amp; Interfaces</i> , 2015, 7, 17649-17655.	4.0	220
7	Unravelling structural ambiguities in lithium- and manganese-rich transition metal oxides. <i>Nature Communications</i> , 2015, 6, 8711.	5.8	176
8	Effect of microstructure and surface impurity segregation on the electrical and electrochemical properties of dense Al-substituted Li <sub>7</sub> La <sub>3</sub> Zr <sub>2</sub> O <sub>12</sub> . <i>Journal of Materials Chemistry A</i> , 2014, 2, 172-181.	5.2	170
9	Single-crystal based studies for correlating the properties and high-voltage performance of Li[Ni <sub>x</sub> Mn <sub>y</sub> Co <sub>1-x-y</sub> ]O <sub>2</sub> cathodes. <i>Journal of Materials Chemistry A</i> , 2019, 7, 5463-5474.	5.2	169
10	The effect of particle surface facets on the kinetic properties of LiMn <sub>1.5</sub> Ni <sub>0.5</sub> O <sub>4</sub> cathode materials. <i>Journal of Materials Chemistry A</i> , 2013, 1, 759-769.	5.2	159
11	Phase transformation mechanism in lithium manganese nickel oxide revealed by single-crystal hard X-ray microscopy. <i>Nature Communications</i> , 2017, 8, 14309.	5.8	124
12	Thermal instability of Olivine-type LiMnPO <sub>4</sub> cathodes. <i>Journal of Power Sources</i> , 2010, 195, 1221-1224.	4.0	121
13	Atomic-Resolution Visualization of Distinctive Chemical Mixing Behavior of Ni, Co, and Mn with Li in Layered Lithium Transition-Metal Oxide Cathode Materials. <i>Chemistry of Materials</i> , 2015, 27, 5393-5401.	3.2	108
14	Surface Structure, Morphology, and Stability of Li(Ni <sub>1/3</sub> Mn <sub>1/3</sub> Co <sub>1/3</sub> )O <sub>2</sub> Cathode Material. <i>Journal of Physical Chemistry C</i> , 2017, 121, 8290-8299.	1.5	101
15	Ni and Co Segregations on Selective Surface Facets and Rational Design of Layered Lithium Transition-Metal Oxide Cathodes. <i>Advanced Energy Materials</i> , 2016, 6, 1502455.	10.2	100
16	Relationships between Mn <sup>3+</sup> Content, Structural Ordering, Phase Transformation, and Kinetic Properties in LiNi <sub>x</sub> Mn <sub>2-2x</sub> O <sub>4</sub> Cathode Materials. <i>Chemistry of Materials</i> , 2014, 26, 5374-5382.	3.2	88
17	Unravelling Solid-State Redox Chemistry in Li <sub>1.3</sub> Nb <sub>0.3</sub> Mn <sub>0.4</sub> O <sub>2</sub> Single-Crystal Cathode Material. <i>Chemistry of Materials</i> , 2018, 30, 1655-1666.	3.2	84
18	Understanding Performance Degradation in Cation-Disordered Rock-Salt Oxide Cathodes. <i>Advanced Energy Materials</i> , 2019, 9, 1901255.	10.2	84

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19	All-Solid-State Batteries Using Rationally Designed Garnet Electrolyte Frameworks. <i>ACS Applied Energy Materials</i> , 2020, 3, 170-175.	2.5	84
20	Garnet Electrolyte Surface Degradation and Recovery. <i>ACS Applied Energy Materials</i> , 2018, 1, 7244-7252.	2.5	81
21	Understanding the Effect of Local Short-Range Ordering on Lithium Diffusion in Li <sub>1.3</sub> Nb <sub>0.3</sub> Mn <sub>0.4</sub> O <sub>2</sub> Single-Crystal Cathode. <i>CheM</i> , 2018, 4, 2108-2123.	5.8	80
22	Metastable Solid-Solution Phases in the LiFePO <sub>4</sub> •FePO <sub>4</sub> System. <i>Journal of the Electrochemical Society</i> , 2007, 154, A627.	1.3	79
23	Oriented porous LLZO 3D structures obtained by freeze casting for battery applications. <i>Journal of Materials Chemistry A</i> , 2019, 7, 20861-20870.	5.2	65
24	The Role of Secondary Particle Structures in Surface Phase Transitions of Ni-Rich Cathodes. <i>Chemistry of Materials</i> , 2020, 32, 2884-2892.	3.2	60
25	MAS NMR Study of the Metastable Solid Solutions Found in the LiFePO <sub>4</sub> /FePO <sub>4</sub> System. <i>Chemistry of Materials</i> , 2010, 22, 1249-1262.	3.2	57
26	Improved kinetics and stabilities in Mg-substituted LiMnPO <sub>4</sub> . <i>Journal of Materials Chemistry</i> , 2011, 21, 10126.	6.7	57
27	Revealing Anisotropic Spinel Formation on Pristine Li- and Mn-Rich Layered Oxide Surface and Its Impact on Cathode Performance. <i>Advanced Energy Materials</i> , 2017, 7, 1602010.	10.2	57
28	Alleviating oxygen evolution from Li-excess oxide materials through theory-guided surface protection. <i>Nature Communications</i> , 2018, 9, 4597.	5.8	56
29	Unlocking the passivation nature of the cathode-air interfacial reactions in lithium ion batteries. <i>Nature Communications</i> , 2020, 11, 3204.	5.8	55
30	Scalable Freeze-Tape-Casting Fabrication and Pore Structure Analysis of 3D LLZO Solid-State Electrolytes. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 3494-3501.	4.0	52
31	Atomic-Level Understanding of Surface Reconstruction Based on Li[Ni <sub>x</sub> Mn <sub>y</sub> Co <sub>1-x-y</sub> ]O <sub>2</sub> Single-Crystal Studies. <i>ACS Applied Energy Materials</i> , 2020, 3, 4799-4811.	2.5	51
32	An Overview of Cation-Disordered Lithium-Excess Rocksalt Cathodes. <i>ACS Energy Letters</i> , 0, , 1358-1376.	8.8	50
33	A New Anion Receptor for Improving the Interface between Lithium- and Manganese-Rich Layered Oxide Cathode and the Electrolyte. <i>Chemistry of Materials</i> , 2017, 29, 2141-2149.	3.2	44
34	A Fluorination Method for Improving Cation-Disordered Rocksalt Cathode Performance. <i>Advanced Energy Materials</i> , 2020, 10, 2001671.	10.2	43
35	Solid Solution Phases in the Olivine-Type LiMnPO <sub>4</sub> /MnPO <sub>4</sub> System. <i>Journal of the Electrochemical Society</i> , 2009, 156, A756.	1.3	41
36	Evolution of Local Structural Ordering and Chemical Distribution upon Delithiation of a Rock Salt-Structured Li <sub>1.3</sub> Ta <sub>0.3</sub> Mn <sub>0.4</sub> O <sub>2</sub> Cathode. <i>Advanced Functional Materials</i> , 2019, 29, 1808294.	7.8	41

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37	A study of room-temperature $\text{Li}_x\text{Mn}_{1.5}\text{Ni}_{0.5}\text{O}_4$ solid solutions. <i>Scientific Reports</i> , 2015, 5, 8027.	1.6	37
38	Role of Redox-Inactive Transition Metals in the Behavior of Cation-Disordered Rocksalt Cathodes. <i>Small</i> , 2020, 16, e2000656.	5.2	37
39	Controlling side reactions and self-discharge in high-voltage spinel cathodes: the critical role of surface crystallographic facets. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 26471-26481.	1.3	35
40	Solid-state electrolyte considerations for electric vehicle batteries. <i>Sustainable Energy and Fuels</i> , 2019, 3, 1647-1659.	2.5	32
41	Single-Crystal $\text{LiNi}_x\text{Mn}_y\text{Co}_{1-x-y}\text{O}_2$ Cathodes for Extreme Fast Charging. <i>Small</i> , 2022, 18, e2105833.	1.3	31
42	Fluorination-Enhanced Surface Stability of Cation-Disordered Rocksalt Cathodes for $\text{Li}$ -Ion Batteries. <i>Advanced Functional Materials</i> , 2021, 31, 2101888.	7.8	28
43	Crystal Chemistry and Electrochemistry of $\text{Li}_x\text{Mn}_{1.5}\text{Ni}_{0.5}\text{O}_4$ Solid Solution Cathode Materials. <i>Chemistry of Materials</i> , 2017, 29, 6818-6828.	3.2	24
44	Understanding Reactivities of Ni-Rich $\text{Li}[\text{Ni}_x\text{Mn}_y\text{Co}_{1-x-y}\text{O}_2]$ Single-Crystal Cathode Materials. <i>ACS Applied Energy Materials</i> , 2020, 3, 12238-12245.	2.5	24
45	Impact of Initial Li Content on Kinetics and Stabilities of Layered $\text{Li}_{1+x}(\text{Ni}_{0.33}\text{Mn}_{0.33}\text{Co}_{0.33})\text{O}_{2+x}$ . <i>Journal of the Electrochemical Society</i> , 2012, 159, A1543-A1550.	1.3	21
46	Understanding cation-disordered rocksalt oxyfluoride cathodes. <i>Journal of Materials Chemistry A</i> , 2021, 9, 7826-7837.	5.2	21
47	Improving $\text{LiNiO}_2$ cathode performance through particle design and optimization. <i>Journal of Materials Chemistry A</i> , 2022, 10, 12890-12899.	5.2	16
48	Exceptional Cycling Performance Enabled by Local Structural Rearrangements in Disordered Rocksalt Cathodes. <i>Advanced Energy Materials</i> , 2022, 12, .	10.2	15
49	Formation of $\text{LiF}$ Surface Layer During Direct Fluorination of High-Capacity Co-Free Disordered Rocksalt Cathodes. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 38221-38228.	4.0	13
50	Fluorination-Enhanced Surface Stability of Disordered Rocksalt Cathodes. <i>Advanced Materials</i> , 2022, 34, e2106256.	11.1	11
51	Strain-driven surface reconstruction and cation segregation in layered $\text{Li}(\text{Ni}_x\text{Mn}_y\text{Co}_{1-x-y})\text{O}_2$ (NMC) cathode materials. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 24490-24497.	1.3	8
52	Role of Fluorine in Chemomechanics of Cation-Disordered Rocksalt Cathodes. <i>Chemistry of Materials</i> , 2021, 33, 7028-7038.	3.2	8
53	Exposure History and its Effect Towards Stabilizing Li Exchange Across Disordered Rock Salt Interfaces. <i>ChemElectroChem</i> , 2021, 8, 3982-3991.	1.7	4
54	Cathode Materials: Ni and Co Segregations on Selective Surface Facets and Rational Design of Layered Lithium Transition-Metal Oxide Cathodes ( <i>Adv. Energy Mater.</i> 9(2016)). <i>Advanced Energy Materials</i> , 2016, 6, .	10.2	2

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55	Aberration-Corrected Scanning Transmission Electron Microscopy of Single Crystals and Chemically-Gradient NMC Cathodes. <i>Microscopy and Microanalysis</i> , 2018, 24, 1536-1537.	0.2	2
56	A Multiple-Technique Approach for Resolving the Surface Structure of Lithium and Manganese Rich Transition Metal Oxides. <i>Microscopy and Microanalysis</i> , 2015, 21, 1929-1930.	0.2	0
57	Investigating Side Reactions and Coating Effects on High Voltage Layered Cathodes for Lithium Ion Batteries. <i>Microscopy and Microanalysis</i> , 2016, 22, 1312-1313.	0.2	0
58	Li-ion Batteries: A Fluorination Method for Improving Cation-Disordered Rocksalt Cathode Performance ( <i>Adv. Energy Mater.</i> 35/2020). <i>Advanced Energy Materials</i> , 2020, 10, 2070146.	10.2	0