

Ni-Rich Layered Cathode Materials with Electrochemical Microstructures for All-Solid-State Li Batteries

Advanced Energy Materials

10, 1903360

DOI: [10.1002/aenm.201903360](https://doi.org/10.1002/aenm.201903360)

Citation Report

#	ARTICLE	IF	CITATIONS
1	Promising All-Solid-State Batteries for Future Electric Vehicles. ACS Energy Letters, 2020, 5, 3221-3223.	8.8	151
2	Research progress in Li-argyrodite-based solid-state electrolytes. Journal of Materials Chemistry A, 2020, 8, 25663-25686.	5.2	68
3	Stabilizing and understanding the interface between nickel-rich cathode and PEO-based electrolyte by lithium niobium oxide coating for high-performance all-solid-state batteries. Nano Energy, 2020, 78, 105107.	8.2	88
4	Recent advances in Ni-rich layered oxide particle materials for lithium-ion batteries. Particuology, 2020, 53, 1-11.	2.0	60
5	Structure Design of Cathode Electrodes for Solid-State Batteries: Challenges and Progress. Small Structures, 2020, 1, 2000042.	6.9	73
6	Cathode-Sulfide Solid Electrolyte Interfacial Instability: Challenges and Solutions. Frontiers in Energy Research, 2020, 0, .	1.2	4
7	Investigations into the superionic glass phase of $\text{Li}_4\text{PS}_4\text{I}$ for improving the stability of high-loading all-solid-state batteries. Inorganic Chemistry Frontiers, 2020, 7, 3953-3960.	3.0	18
8	Ni-Rich Layered Cathode Materials by a Mechanochemical Method for High-Energy Lithium-Ion Batteries. ChemistrySelect, 2020, 5, 14596-14601.	0.7	4
9	$\text{Li}_2\text{Zr}_3\text{-Coated NCM622}$ for Application in Inorganic Solid-State Batteries: Role of Surface Carbonates in the Cycling Performance. ACS Applied Materials & Interfaces, 2020, 12, 57146-57154.	4.0	90
10	4 V room-temperature all-solid-state sodium battery enabled by a passivating cathode/hydroborate solid electrolyte interface. Energy and Environmental Science, 2020, 13, 5048-5058.	15.6	61
11	Tailoring Solution-Processable Li Argyrodites $\text{Li}_6\text{P}_2\text{M}_x\text{S}_5\text{I}$ (M = Ge, Sn) and Their Microstructural Evolution Revealed by Cryo-TEM for All-Solid-State Batteries. Nano Letters, 2020, 20, 4337-4345.	4.5	67
12	Single crystal cathodes enabling high-performance all-solid-state lithium-ion batteries. Energy Storage Materials, 2020, 30, 98-103.	9.5	109
13	Influence of NCM Particle Cracking on Kinetics of Lithium-Ion Batteries with Liquid or Solid Electrolyte. Journal of the Electrochemical Society, 2020, 167, 100532.	1.3	134
14	Operando Differential Electrochemical Pressimetry for Probing Electrochemo-Mechanics in All-Solid-State Batteries. Advanced Functional Materials, 2020, 30, 2002535.	7.8	41
15	Influence of Carbon Additives on the Decomposition Pathways in Cathodes of Lithium Thiophosphate-Based All-Solid-State Batteries. Chemistry of Materials, 2020, 32, 6123-6136.	3.2	126
16	Thin and Flexible Solid Electrolyte Membranes with Ultrahigh Thermal Stability Derived from Solution-Processable Li Argyrodites for All-Solid-State Li-Ion Batteries. ACS Energy Letters, 2020, 5, 718-727.	8.8	126
17	Interfacial Reactions in Inorganic All-Solid-State Lithium Batteries. Batteries and Supercaps, 2021, 4, 8-38.	2.4	39
18	High-Energy All-Solid-State Organic-Lithium Batteries Based on Ceramic Electrolytes. ACS Energy Letters, 2021, 6, 201-207.	8.8	37

#	ARTICLE	IF	CITATIONS
19	Phase engineering of cobalt hydroxide toward cation intercalation. <i>Chemical Science</i> , 2021, 12, 1756-1761.	3.7	23
20	(Oxalato)borate: The key ingredient for polyethylene oxide based composite electrolyte to achieve ultra-stable performance of high voltage solid-state LiNi _{0.8} Co _{0.1} Mn _{0.1} O ₂ /lithium metal battery. <i>Nano Energy</i> , 2021, 80, 105562.	8.2	58
21	New Cost-Effective Halide Solid Electrolytes for All-Solid-State Batteries: Mechanochemically Prepared Fe ³⁺ -Substituted Li ₂ ZrCl ₆ . <i>Advanced Energy Materials</i> , 2021, 11, 2003190.	10.2	132
22	All-solid-state lithium batteries enabled by sulfide electrolytes: from fundamental research to practical engineering design. <i>Energy and Environmental Science</i> , 2021, 14, 2577-2619.	15.6	201
23	Electrochemical-Mechanical Effects on Structural Integrity of Ni-Rich Cathodes with Different Microstructures in All-Solid-State Batteries. <i>Advanced Energy Materials</i> , 2021, 11, 2003583.	10.2	112
24	Tactical hybrids of Li ⁺ -conductive dry polymer electrolytes with sulfide solid electrolytes: Toward practical all-solid-state batteries with wider temperature operability. <i>Materials Today</i> , 2022, 53, 7-15.	8.3	34
25	Synthesis and Postprocessing of Single-Crystalline LiNi _{0.8} Co _{0.15} Al _{0.05} O ₂ for Solid-State Lithium-Ion Batteries with High Capacity and Long Cycling Stability. <i>Chemistry of Materials</i> , 2021, 33, 2624-2634.	3.2	38
26	Effect of surface carbonates on the cyclability of LiNbO ₃ -coated NCM622 in all-solid-state batteries with lithium thiophosphate electrolytes. <i>Scientific Reports</i> , 2021, 11, 5367.	1.6	21
27	Operando Characterization Techniques for All-Solid-State Lithium-Ion Batteries. <i>Advanced Energy and Sustainability Research</i> , 2021, 2, 2100004.	2.8	38
28	Tailoring Slurries Using Cosolvents and Li Salt Targeting Practical All-Solid-State Batteries Employing Sulfide Solid Electrolytes. <i>Advanced Energy Materials</i> , 2021, 11, 2003766.	10.2	41
29	Promising Electrode and Electrolyte Materials for High-Energy-Density Thin-Film Lithium Batteries. <i>Energy and Environmental Materials</i> , 2022, 5, 133-156.	7.3	25
30	Ion-Exchange: A Promising Strategy to Design Li-Rich and Li-Excess Layered Cathode Materials for Li-Ion Batteries. <i>Advanced Energy Materials</i> , 2022, 12, 2003972.	10.2	49
31	Interactions are important: Linking multi-physics mechanisms to the performance and degradation of solid-state batteries. <i>Materials Today</i> , 2021, 49, 145-183.	8.3	51
32	Developments in Dilatometry for Characterisation of Electrochemical Devices. <i>Batteries and Supercaps</i> , 2021, 4, 1378-1396.	2.4	12
33	Single- or Poly-Crystalline Ni-Rich Layered Cathode, Sulfide or Halide Solid Electrolyte: Which Will be the Winners for All-Solid-State Batteries?. <i>Advanced Energy Materials</i> , 2021, 11, 2100126.	10.2	148
34	Fabrication of High-Quality Thin Solid-State Electrolyte Films Assisted by Machine Learning. <i>ACS Energy Letters</i> , 0, , 1639-1648.	8.8	53
35	Deciphering Interfacial Chemical and Electrochemical Reactions of Sulfide-Based All-Solid-State Batteries. <i>Advanced Energy Materials</i> , 2021, 11, 2100210.	10.2	63
36	Na ₂ ZrCl ₆ enabling highly stable 3 V all-solid-state Na-ion batteries. <i>Energy Storage Materials</i> , 2021, 37, 47-54.	9.5	53

#	ARTICLE	IF	CITATIONS
37	Toward High Performance All-Solid-State Lithium Batteries with High-Voltage Cathode Materials: Design Strategies for Solid Electrolytes, Cathode Interfaces, and Composite Electrodes. <i>Advanced Energy Materials</i> , 2021, 11, 2003154.	10.2	65
38	Lithium Ytterbium-Based Halide Solid Electrolytes for High Voltage All-Solid-State Batteries. , 2021, 3, 930-938.		80
39	Editors'™ Choice™ Quantification of the Impact of Chemo-Mechanical Degradation on the Performance and Cycling Stability of NCM-Based Cathodes in Solid-State Li-Ion Batteries. <i>Journal of the Electrochemical Society</i> , 2021, 168, 070546.	1.3	22
40	High Energy Density Single-Crystal NMC/Li ₆ PS ₅ Cl Cathodes for All-Solid-State Lithium-Metal Batteries. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 37809-37815.	4.0	54
41	Developments in Dilatometry for Characterisation of Electrochemical Devices. <i>Batteries and Supercaps</i> , 2021, 4, 1376-1377.	2.4	0
42	Cycling Performance and Limitations of LiNiO ₂ in Solid-State Batteries. <i>ACS Energy Letters</i> , 2021, 6, 3020-3028.	8.8	39
43	Current status and future directions of all-solid-state batteries with lithium metal anodes, sulfide electrolytes, and layered transition metal oxide cathodes. <i>Nano Energy</i> , 2021, 87, 106081.	8.2	55
44	Well-dispersed single-crystalline nickel-rich cathode for long-life high-voltage all-solid-state batteries. <i>Journal of Power Sources</i> , 2021, 508, 230335.	4.0	21
45	Heat treatment protocol for modulating ionic conductivity via structural evolution of Li _{3-x} Yb _{1-x} MxCl ₆ (M=Hf ⁴⁺ , Zr ⁴⁺) new halide superionic conductors for all-solid-state batteries. <i>Chemical Engineering Journal</i> , 2021, 425, 130630.	6.6	71
46	Inhomogeneous lithium-storage reaction triggering the inefficiency of all-solid-state batteries. <i>Journal of Energy Chemistry</i> , 2022, 66, 226-236.	7.1	19
47	Fast Charge-Driven Li Plating on Anode and Structural Degradation of Cathode. <i>Journal of the Electrochemical Society</i> , 2020, 167, 140506.	1.3	28
48	Systematic Study of the Cathode Compositional Dependency of Cross-Talk Behavior in Li-Ion Battery. <i>Journal of the Electrochemical Society</i> , 2020, 167, 160508.	1.3	12
49	Mechanical failures in solid-state lithium batteries and their solution. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2020, 69, 226201.	0.2	5
50	Advance in interface and characterizations of sulfide solid electrolyte materials. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2020, 69, 228803.	0.2	24
51	All-Solid-State Lithium Metal Batteries with Sulfide Electrolytes: Understanding Interfacial Ion and Electron Transport. <i>Accounts of Materials Research</i> , 2022, 3, 21-32.	5.9	30
52	Recent advances of composite electrolytes for solid-state Li batteries. <i>Journal of Energy Chemistry</i> , 2022, 67, 524-548.	7.1	47
53	A Review of Degradation Mechanisms and Recent Achievements for Ni-Rich Cathode-Based Li-Ion Batteries. <i>Advanced Energy Materials</i> , 2021, 11, 2103005.	10.2	206
54	A mechanistic investigation of the Li ₁₀ GeP ₂ S ₁₂ LiNi _{1-x-y} CoxMnyO ₂ interface stability in all-solid-state lithium batteries. <i>Nature Communications</i> , 2021, 12, 6669.	5.8	72

#	ARTICLE	IF	CITATIONS
55	The interplay between (electro)chemical and (chemo)mechanical effects in the cycling performance of thiophosphate-based solid-state batteries. <i>Materials Futures</i> , 2022, 1, 015102.	3.1	40
56	Using conductive carbon fabric to fabricate binder-free Ni-rich cathodes for Li-ion batteries. <i>International Journal of Energy Research</i> , 2022, 46, 4671-4679.	2.2	4
57	Nickel-Based Materials for Advanced Rechargeable Batteries. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	36
58	Densification and charge transport characterization of composite cathodes with single-crystalline LiNi _{0.8} Co _{0.15} Al _{0.05} O ₂ for solid-state batteries. <i>Energy Storage Materials</i> , 2022, 46, 155-164.	9.5	9
59	Electrochemo-mechanical effects as a critical design factor for all-solid-state batteries. <i>Current Opinion in Solid State and Materials Science</i> , 2022, 26, 100977.	5.6	32
60	Ultrafine-grained Ni-rich layered cathode for advanced Li-ion batteries. <i>Energy and Environmental Science</i> , 2021, 14, 6616-6626.	15.6	82
61	Multiscale understanding of high-energy cathodes in solid-state batteries: from atomic scale to macroscopic scale. <i>Materials Futures</i> , 2022, 1, 012101.	3.1	34
62	Challenges, interface engineering, and processing strategies toward practical <sc>sulfide-based all-solid-state</sc> lithium batteries. <i>Informa Mater</i> , 2022, 4, .	8.5	92
63	Recent Advances in Interface Engineering for All-Solid-State Batteries. <i>Ceramist</i> , 2022, 25, 104-121.	0.0	0
64	A Bifunctional Chemomechanics Strategy To Suppress Electrochemo-Mechanical Failure of Ni-Rich Cathodes for All-Solid-State Lithium Batteries. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 17674-17681.	4.0	23
65	Simulation of intergranular fracture behavior inside randomly aggregated LiNi _x Co _y Mn _{1-x-y} O ₂ polycrystalline particle. <i>Engineering Fracture Mechanics</i> , 2022, 266, 108381.	2.0	8
66	Insights into interfacial chemistry of Ni-rich cathodes and sulphide-based electrolytes in all-solid-state lithium batteries. <i>Chemical Communications</i> , 2022, , .	2.2	8
67	Three-dimensional networking binders prepared in situ during wet-slurry process for all-solid-state batteries operating under low external pressure. <i>Energy Storage Materials</i> , 2022, 49, 219-226.	9.5	31
68	Emerging Halide Superionic Conductors for All-Solid-State Batteries: Design, Synthesis, and Practical Applications. <i>ACS Energy Letters</i> , 2022, 7, 1776-1805.	8.8	106
69	Review of the electrochemical performance and interfacial issues of high-nickel layered cathodes in inorganic all-solid-state batteries. <i>International Journal of Minerals, Metallurgy and Materials</i> , 2022, 29, 1003-1018.	2.4	7
70	Tailoring shape and exposed crystal facet of single-crystal layered-oxide cathode particles for all-solid-state batteries. <i>Chemical Engineering Journal</i> , 2022, 445, 136828.	6.6	15
71	Effects of Co/Mn Content Variation on Structural and Electrochemical Properties of Single-Crystal Ni-Rich Layered Oxide Materials for Lithium Ion Batteries. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 24620-24635.	4.0	6
72	Operando electrochemical pressiometry probing interfacial evolution of electrodeposited thin lithium metal anodes for all-solid-state batteries. <i>Energy Storage Materials</i> , 2022, 50, 543-553.	9.5	16

#	ARTICLE	IF	CITATIONS
73	Toward High Rate Performance Solid-State Batteries. <i>Advanced Energy Materials</i> , 2022, 12, .	10.2	24
74	The optimized interface engineering of VS ₂ as cathodes for high performance all-solid-state lithium-ion battery. <i>Science China Technological Sciences</i> , 2022, 65, 1859-1866.	2.0	11
75	Highly reversible Li ₂ RuO ₃ cathodes in sulfide-based all solid-state lithium batteries. <i>Energy and Environmental Science</i> , 2022, 15, 3470-3482.	15.6	17
76	Enabling a Co-Free, High-Voltage LiNi _{0.5} Mn _{1.5} O ₄ Cathode in All-Solid-State Batteries with a Halide Electrolyte. <i>ACS Energy Letters</i> , 2022, 7, 2531-2539.	8.8	33
77	All-solid-state lithium batteries featuring hybrid electrolytes based on Li ⁺ ion-conductive Li ₇ La ₃ Zr ₂ O ₁₂ framework and full-concentration gradient Ni-rich NCM cathode. <i>Chemical Engineering Journal</i> , 2022, 450, 138043.	6.6	16
78	Designing Cathodes and Cathode Active Materials for Solid-State Batteries. <i>Advanced Energy Materials</i> , 2022, 12, .	10.2	72
79	Enhanced Air and Electrochemical Stability of Li ₇ P _{2.9} Ge _{0.05} S _{10.75} O _{0.1} Electrolytes with High Ionic Conductivity for Thiophosphate-Based All-Solid-State Batteries. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 39985-39995.	4.0	6
80	High-Energy and Long-Cycling All-Solid-State Lithium-Ion Batteries with Li- and Mn-Rich Layered Oxide Cathodes and Sulfide Electrolytes. <i>ACS Energy Letters</i> , 2022, 7, 3006-3014.	8.8	25
81	Maximizing the energy density and stability of Ni-rich layered cathode materials with multivalent dopants via machine learning. <i>Chemical Engineering Journal</i> , 2023, 452, 139254.	6.6	11
82	Pressure-Driven Contact Mechanics Evolution of Cathode Interfaces in Lithium Batteries. <i>Acta Mechanica Solida Sinica</i> , 2023, 36, 65-75.	1.0	2
83	Recent progress in synthesis and surface modification of nickel-rich layered oxide cathode materials for lithium-ion batteries. <i>International Journal of Extreme Manufacturing</i> , 2022, 4, 042004.	6.3	16
84	Prospective Cathode Materials for All-Solid-State Batteries. <i>Advances in Material Research and Technology</i> , 2022, , 83-125.	0.3	0
85	Single- to Few-Layer Nanoparticle Cathode Coating for Thiophosphate-Based All-Solid-State Batteries. <i>ACS Nano</i> , 2022, 16, 18682-18694.	7.3	9
86	Thermal Runaway Behavior of Li ₆ PS ₅ Cl Solid Electrolytes for LiNi _{0.8} Co _{0.1} Mn _{0.1} O ₂ and LiFePO ₄ in All-Solid-State Batteries. <i>Chemistry of Materials</i> , 2022, 34, 9159-9171.	3.2	25
87	Current-Dependent Lithium Metal Growth Modes in Anode-Free Solid-State Batteries at the Cu LLZO Interface. <i>Advanced Energy Materials</i> , 2023, 13, .	10.2	27
88	Unraveling the LiNbO ₃ coating layer on battery performances of lithium argyrodite-based all-solid-state batteries under different cut-off voltages. <i>Electrochimica Acta</i> , 2023, 438, 141545.	2.6	17
89	Oxide-Based Solid-State Batteries: A Perspective on Composite Cathode Architecture. <i>Advanced Energy Materials</i> , 2023, 13, .	10.2	34
90	Electrochemo-Mechanical Stresses and Their Measurements in Sulfide-Based All-Solid-State Batteries: A Review. <i>Advanced Energy Materials</i> , 2023, 13, .	10.2	20

#	ARTICLE	IF	CITATIONS
91	Lithium-Rich $\text{Li}_{2/3}\text{TiS}_3$ Cathode Enables High-Energy Sulfide All-Solid-State Lithium Batteries. <i>Advanced Energy Materials</i> , 2023, 13, .	10.2	9
92	A near dimensionally invariable high-capacity positive electrode material. <i>Nature Materials</i> , 2023, 22, 225-234.	13.3	24
93	Enhanced Performance of Lithium Polymer Batteries Based on the Nickel-Rich $\text{LiNi}_{0.8}\text{Mn}_{0.1}\text{Co}_{0.1}\text{O}_2$ Cathode Material and Dual Salts. <i>ACS Applied Energy Materials</i> , 2022, 5, 15768-15779.	2.5	4
94	Surface Sulfur Loss of Jet-Milled $\text{Li}_6\text{PS}_5\text{Cl}$ Powder under Mild-Temperature Heat Treatment. <i>ACS Applied Energy Materials</i> , 2022, 5, 15442-15451.	2.5	4
95	Microstructure- and Interface-Modified Ni-Rich Cathode for High-Energy-Density All-Solid-State Lithium Batteries. <i>ACS Energy Letters</i> , 2023, 8, 809-817.	8.8	17
96	Li-richening strategy in Li_2ZrCl_6 lattice towards enhanced ionic conductivity. <i>Journal of Energy Chemistry</i> , 2023, 79, 348-356.	7.1	14
97	Electro-Chemo-Mechanical Challenges and Perspective in Lithium Metal Batteries. <i>Applied Mechanics Reviews</i> , 2023, 75, .	4.5	10
98	Exploring the use of butadiene rubbers as a binder in composite cathodes for all-solid-state lithium batteries. <i>Journal of Industrial and Engineering Chemistry</i> , 2023, 122, 341-348.	2.9	3
99	Formation of an Artificial Cathode-Electrolyte Interphase to Suppress Interfacial Degradation of Ni-Rich Cathode Active Material with Sulfide Electrolytes for Solid-State Batteries. <i>ACS Energy Letters</i> , 2023, 8, 1322-1329.	8.8	15
100	Advanced Characterization Techniques for Sulfide-Based Solid-State Lithium Batteries. <i>Advanced Energy Materials</i> , 2023, 13, .	10.2	12
101	Interfacial Challenges and Strategies toward Practical Sulfide-Based Solid-State Lithium Batteries. <i>Energy Material Advances</i> , 2023, 4, .	4.7	12
102	Challenges of Stable Ion Pathways in Cathode Electrode for All-Solid-State Lithium Batteries: A Review. <i>Advanced Energy Materials</i> , 2023, 13, .	10.2	22
103	Improved electrode reversibility of anionic redox with highly concentrated electrolyte solution and aramid-coated polyolefin separator. <i>Energy Advances</i> , 2023, 2, 508-512.	1.4	7
115	Facile Solid-State Synthesis of a Layered Co-Free, Ni-Rich Cathode Material for All-Solid-State Batteries. <i>Chemical Communications</i> , 0, , .	2.2	1