Seong-Min Bak

List of Publications by Year
in descending order

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86	8,582	53660 45	49773 87
papers	citations	h-index	g-index

92	92	92	9986
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	An ultrathin solid-state electrolyte film coated on LiNi0.8Co0.1Mn0.1O2 electrode surface for enhanced performance of lithium-ion batteries. Energy Storage Materials, 2022, 45, 1165-1174.	9.5	43
2	Surface Redox Pseudocapacitance of Partially Oxidized Titanium Carbide MXene in Water-in-Salt Electrolyte. ACS Energy Letters, 2022, 7, 30-35.	8.8	43
3	Hybrid MoS_{2+x} Nanosheet/Nanocarbon Heterostructures for Lithium-Ion Batteries. ACS Applied Nano Materials, 2022, 5, 5103-5118.	2.4	7
4	Investigation of Ca Insertion into Î±-MoO₃ Nanoparticles for High Capacity Ca-Ion Cathodes. Nano Letters, 2022, 22, 2228-2235.	4.5	16
5	Isoxazole-Based Electrolytes for Lithium Metal Protection and Lithium-Sulfurized Polyacrylonitrile (SPAN) Battery Operating at Low Temperature. Journal of the Electrochemical Society, 2022, 169, 030513.	1.3	4
6	Carbon-free high-performance cathode for solid-state Li-O ₂ battery. Science Advances, 2022, 8, eabm8584.	4.7	15
7	The Role of Electron Localization in Covalency and Electrochemical Properties of Lithiumâ€Ion Battery Cathode Materials. Advanced Functional Materials, 2021, 31, 2001633.	7.8	21
8	New Highâ€Performance Pbâ€Based Nanocomposite Anode Enabled by Wideâ€Range Pb Redox and Zintl Phase Transition. Advanced Functional Materials, 2021, 31, 2005362.	7.8	6
9	Identification of LiH and nanocrystalline LiF in the solidâ€“electrolyte interphase of lithium metal anodes. Nature Nanotechnology, 2021, 16, 549-554.	15.6	171
10	In Situ ATRâ€FTIR Study of the Cathodeâ€“Electrolyte Interphase: Electrolyte Solution Structure, Transition Metal Redox, and Surface Layer Evolution. Batteries and Supercaps, 2021, 4, 778-784.	2.4	12
11	Tuning Sodium Occupancy Sites in P2â€Layered Cathode Material for Enhancing Electrochemical Performance. Advanced Energy Materials, 2021, 11, 2003455.	10.2	46
12	Hierarchical nickel valence gradient stabilizes high-nickel content layered cathode materials. Nature Communications, 2021, 12, 2350.	5.8	59
13	Modification of the Coordination Environment of Active Sites on MoC for Highâ€Efficiency CH₄ Production. Advanced Energy Materials, 2021, 11, 2100044.	10.2	21
14	Understanding the Roles of the Electrode/Electrolyte Interface for Enabling Stable Liâ^¥Sulfurized Polyacrylonitrile Batteries. ACS Applied Materials & Interfaces, 2021, 13, 31733-31740.	4.0	25
15	Experimental Verification of Ir 5d Orbital States and Atomic Structures in Highly Active Amorphous Iridium Oxide Catalysts. ACS Catalysis, 2021, 11, 10084-10094.	5.5	4
16	Controlling MoO2 and MoO3 phases in MoOx/CNTs nanocomposites and their application to anode materials for lithium-ion batteries and capacitors. Electrochimica Acta, 2021, 388, 138635.	2.6	26
17	Reversible dual anionic-redox chemistry in NaCrSSe with fast charging capability. Journal of Power Sources, 2021, 502, 230022.	4.0	5
18	Sodium storage property and mechanism of NaCr1/4Fe1/4Ni1/4Ti1/4O2 cathode at various cut-off voltages. Energy Storage Materials, 2020, 24, 417-425.	9.5	25

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19	Structural Stabilization of P2â€type Sodium Iron Manganese Oxides by Electrochemically Inactive Mg Substitution: Insights of Redox Behavior and Voltage Decay. ChemSusChem, 2020, 13, 5972-5982.	3.6	19
20	Biomimetic composite architecture achieves ultrahigh rate capability and cycling life of sodium ion battery cathodes. Applied Physics Reviews, 2020, 7, .	5.5	15
21	Mixed Ionicâ€“Electronic Conductor of Perovskite Li_xLa_yMO_{3â^'}_{Î´} toward Carbonâ€Free Cathode for Reversible Lithiumâ€“Air Batteries. Advanced Energy Materials, 2020, 10, 2001767.	10.2	32
22	Multimodal Analysis of Reaction Pathways of Cathode Materials for Lithium Ion Batteries. Microscopy and Microanalysis, 2020, 26, 906-908.	0.2	0
23	Reaction heterogeneity in practical high-energy lithiumâ€“sulfur pouch cells. Energy and Environmental Science, 2020, 13, 3620-3632.	15.6	127
24	A Coâ€•and Niâ€Free P2/O3 Biphasic Lithium Stabilized Layered Oxide for Sodiumâ€Ion Batteries and its Cycling Behavior. Advanced Functional Materials, 2020, 30, 2003364.	7.8	80
25	Understanding the Mechanism of High Capacitance in Nickel Hexaaminobenzene-Based Conductive Metalâ€“Organic Frameworks in Aqueous Electrolytes. ACS Nano, 2020, 14, 15919-15925.	7.3	46
26	Tailoring Solution-Processable Li Argyrodites Li_{6+x}P_{1â€“x}M_xS₅I (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
27	Revealing Reaction Pathways of Collective Substituted Iron Fluoride Electrode for Lithium Ion Batteries. ACS Nano, 2020, 14, 10276-10283.	7.3	14
28	Synchrotron Operando Depth Profiling Studies of State-of-Charge Gradients in Thick Li(Ni_{0.8}Mn_{0.1}Co_{0.1})O₂ Cathode Films. Chemistry of Materials, 2020, 32, 6358-6364.	3.2	17
29	Anionic redox reaction in layered NaCr2/3Ti1/3S2 through electron holes formation and dimerization of Sâ€“S. Nature Communications, 2019, 10, 4458.	5.8	38
30	Improving the Electrochemical Performance and Structural Stability of the LiNi_{0.8}Co_{0.15}Al_{0.05}O₂ Cathode Material at High-Voltage Charging through Ti Substitution. ACS Applied Materials & Interfaces, 2019, 11, 23213-23221.	4.0	57
31	Activating Layered Double Hydroxide with Multivacancies by Memory Effect for Energy-Efficient Hydrogen Production at Neutral pH. ACS Energy Letters, 2019, 4, 1412-1418.	8.8	115
32	Reversible Conversion Reactions and Small First Cycle Irreversible Capacity Loss in Metal Sulfideâ€Based Electrodes Enabled by Solid Electrolytes. Advanced Functional Materials, 2019, 29, 1901719.	7.8	21
33	Highâ€Voltage Chargingâ€Induced Strain, Heterogeneity, and Microâ€Cracks in Secondary Particles of a Nickelâ€Rich Layered Cathode Material. Advanced Functional Materials, 2019, 29, 1900247.	7.8	219
34	Anomalous metal segregation in lithium-rich material provides design rules for stable cathode in lithium-ion battery. Nature Communications, 2019, 10, 1650.	5.8	60
35	Synthesis and Characterization of a Molecularly Designed Highâ€Performance Organodisulfide as Cathode Material for Lithium Batteries. Advanced Energy Materials, 2019, 9, 1900705.	10.2	34
36	Optimizing PtFe intermetallics for oxygen reduction reaction: from DFT screening to in situ XAFS characterization. Nanoscale, 2019, 11, 20301-20306.	2.8	33

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37	Rational Design of Hierarchically Openâ€Porous Spherical Hybrid Architectures for Lithiumâ€Ion Batteries. Advanced Energy Materials, 2019, 9, 1802816.	10.2	48
38	InnenrÃ¼cktitelbild: Atomically Dispersed Molybdenum Catalysts for Efficient Ambient Nitrogen Fixation (Angew. Chem. 8/2019). Angewandte Chemie, 2019, 131, 2547-2547.	1.6	7
39	Atomically Dispersed Molybdenum Catalysts for Efficient Ambient Nitrogen Fixation. Angewandte Chemie - International Edition, 2019, 58, 2321-2325.	7.2	543
40	Atomically Dispersed Molybdenum Catalysts for Efficient Ambient Nitrogen Fixation. Angewandte Chemie, 2019, 131, 2343-2347.	1.6	95
41	Confinement of Ultrasmall Cobalt Oxide Clusters within Silicalite-1 Crystals for Efficient Conversion of Fructose into Methyl Lactate. ACS Catalysis, 2019, 9, 1923-1930.	5.5	39
42	Native Vacancy Enhanced Oxygen Redox Reversibility and Structural Robustness. Advanced Energy Materials, 2019, 9, 1803087.	10.2	70
43	Advanced Characterization Techniques for Sodiumâ€Ion Battery Studies. Advanced Energy Materials, 2018, 8, 1702588.	10.2	122
44	In situ/operando synchrotron-based X-ray techniques for lithium-ion battery research. NPG Asia Materials, 2018, 10, 563-580.	3.8	261
45	Evolution of redox couples in Li- and Mn-rich cathode materials and mitigation of voltage fade by reducing oxygen release. Nature Energy, 2018, 3, 690-698.	19.8	675
46	Introducing Fe²⁺ into Nickelâ€“Iron Layered Double Hydroxide: Local Structure Modulated Water Oxidation Activity. Angewandte Chemie, 2018, 130, 9536-9540.	1.6	86
47	Introducing Fe²⁺ into Nickelâ€“Iron Layered Double Hydroxide: Local Structure Modulated Water Oxidation Activity. Angewandte Chemie - International Edition, 2018, 57, 9392-9396.	7.2	284
48	High energy-density and reversibility of iron fluoride cathode enabled via an intercalation-extrusion reaction. Nature Communications, 2018, 9, 2324.	5.8	136
49	Investigation of Degradation Pathway in High Ni-Content Cathode Materials at Primary and Secondary Particle Level By Multi-Scale Characterization. ECS Meeting Abstracts, 2018, , .	0.0	0
50	Suppressing the chromium disproportionation reaction in O3-type layered cathode materials for high capacity sodium-ion batteries. Journal of Materials Chemistry A, 2017, 5, 5442-5448.	5.2	45
51	Electronic structural studies on the improved thermal stability of Li(Ni0.8Co0.15Al0.05)O2 by ZrO2 coating for lithium ion batteries. Journal of Applied Electrochemistry, 2017, 47, 565-572.	1.5	9
52	Self-assembled Li3V2(PO4)3/reduced graphene oxide multilayer composite prepared by sequential adsorption. Journal of Power Sources, 2017, 367, 167-176.	4.0	5
53	Utilizing Co²⁺/Co³⁺ Redox Couple in P2â€Layered Na_{0.66}Co_{0.22}Mn_{0.44}Ti_{0.34}O₂ Cathode for Sodiumâ€Ion Batteries. Advanced Science, 2017, 4, 1700219.	5.6	85
54	Naâ€Ion Intercalation and Charge Storage Mechanism in 2D Vanadium Carbide. Advanced Energy Materials, 2017, 7, 1700959.	10.2	168

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55	Strategies to curb structural changes of lithium/transition metal oxide cathode materials & the changesâ€™ effects on thermal & cycling stability. Chinese Physics B, 2016, 25, 018205.	0.7	13
56	Explore the Effects of Microstructural Defects on Voltage Fade of Li- and Mn-Rich Cathodes. Nano Letters, 2016, 16, 5999-6007.	4.5	64
57	Highâ€Rate Charging Induced Intermediate Phases and Structural Changes of Layerâ€Structured Cathode for Lithiumâ€Ion Batteries. Advanced Energy Materials, 2016, 6, 1600597.	10.2	110
58	Quantification of Honeycomb Number-Type Stacking Faults: Application to Na₃Ni₂BiO₆ Cathodes for Na-Ion Batteries. Inorganic Chemistry, 2016, 55, 8478-8492.	1.9	51
59	Utilizing Environmental Friendly Iron as a Substitution Element in Spinel Structured Cathode Materials for Safer High Energy Lithiumâ€Ion Batteries. Advanced Energy Materials, 2016, 6, 1501662.	10.2	35
60	Scalable fabrication of micron-scale graphene nanomeshes for high-performance supercapacitor applications. Energy and Environmental Science, 2016, 9, 1270-1281.	15.6	122
61	Probing the Mechanism of High Capacitance in 2D Titanium Carbide Using In Situ Xâ€Ray Absorption Spectroscopy. Advanced Energy Materials, 2015, 5, 1500589.	10.2	521
62	Highâ€Surfaceâ€Area Nitrogenâ€Doped Reduced Graphene Oxide for Electric Doubleâ€Layer Capacitors. ChemSusChem, 2015, 8, 1875-1884.	3.6	83
63	Unveiling Surface Redox Charge Storage of Interacting Two-Dimensional Heteronanosheets in Hierarchical Architectures. Nano Letters, 2015, 15, 2269-2277.	4.5	80
64	Using Real-Time Electron Microscopy To Explore the Effects of Transition-Metal Composition on the Local Thermal Stability in Charged Li_xNi_yMn_zCo_{1â€“yâ€“z}O₂ Cathode Materials. Chemistry of Materials, 2015, 27, 3927-3935.	3.2	103
65	Direct Observation of the Redistribution of Sulfur and Polysufides in Liâ€“S Batteries During the First Cycle by In Situ Xâ€Ray Fluorescence Microscopy. Advanced Energy Materials, 2015, 5, 1500072.	10.2	84
66	O3-type layered transition metal oxide Na(NiCoFeTi)_{1/4}O₂ as a high rate and long cycle life cathode material for sodium ion batteries. Journal of Materials Chemistry A, 2015, 3, 23261-23267.	5.2	95
67	Investigating the Reversibility of Structural Modifications of Li_xNi_yMn_zCo_{1â€“yâ€“z}O₂ Cathode Materials during Initial Charge/Discharge, at Multiple Length Scales. Chemistry of Materials, 2015, 27, 6044-6052.	3.2	80
68	Thermal stability in the blended lithium manganese oxide â€“ Lithium nickel cobalt manganese oxide cathode materials: An in situ time-resolved X-Ray diffraction and mass spectroscopy study. Journal of Power Sources, 2015, 277, 193-197.	4.0	33
69	One-step preparation of reduced graphene oxide/carbon nanotube hybrid thin film by electrostatic spray deposition for supercapacitor applications. Metals and Materials International, 2014, 20, 975-981.	1.8	16
70	Structural Changes and Thermal Stability of Charged LiNi_xMn_yCo_zO₂ Cathode Materials Studied by Combined In Situ Time-Resolved XRD and Mass Spectroscopy. ACS Applied Materials & Interfaces, 2014, 6, 22594-22601.	4.0	731
71	Structural Changes in Reduced Graphene Oxide upon MnO₂ Deposition by the Redox Reaction between Carbon and Permanganate Ions. Journal of Physical Chemistry C, 2014, 118, 2834-2843.	1.5	57
72	Improved high-voltage performance of FePO4-coated LiCoO2 by microwave-assisted hydrothermal method. Electrochemistry Communications, 2014, 43, 113-116.	2.3	34

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73	Understanding the Rate Capability of Highâ€Energyâ€Density Liâ€Rich Layered Li_{1.2}Ni_{0.15}Co_{0.1}Mn_{0.55}O₂ Cathode Materials. Advanced Energy Materials, 2014, 4, 1300950.	10.2	480
74	Oxygen-Release-Related Thermal Stability and Decomposition Pathways of Li_xNi_{0.5}Mn_{1.5}O₄ Cathode Materials. Chemistry of Materials, 2014, 26, 1108-1118.	3.2	75
75	Investigating Local Degradation and Thermal Stability of Charged Nickel-Based Cathode Materials through Real-Time Electron Microscopy. ACS Applied Materials & Interfaces, 2014, 6, 15140-15147.	4.0	90
76	SYNTHESIS OF HYDROUS RUTHENIUM OXIDE NANOPARTICLES IN SUB- AND SUPERCRITICAL WATER AND THEIR CAPACITIVE PROPERTIES. Chemical Engineering Communications, 2014, 201, 1259-1269.	1.5	2
77	Soft templated mesoporous manganese oxide/carbon nanotube composites via interfacial surfactant assembly. Journal of Materials Chemistry A, 2014, 2, 3641-3647.	5.2	15
78	Combining In Situ Synchrotron Xâ€Ray Diffraction and Absorption Techniques with Transmission Electron Microscopy to Study the Origin of Thermal Instability in Overcharged Cathode Materials for Lithiumâ€Ion Batteries. Advanced Functional Materials, 2013, 23, 1047-1063.	7.8	458
79	Correlating Structural Changes and Gas Evolution during the Thermal Decomposition of Charged Li_xNi_{0.8}Co_{0.15}Al_{0.05}O₂ Cathode Materials. Chemistry of Materials, 2013, 25, 337-351.	3.2	317
80	Phase transition behavior of NaCrO2 during sodium extraction studied by synchrotron-based X-ray diffraction and absorption spectroscopy. Journal of Materials Chemistry A, 2013, 1, 11130.	5.2	84
81	Cathode Materials: Combining In Situ Synchrotron Xâ€Ray Diffraction and Absorption Techniques with Transmission Electron Microscopy to Study the Origin of Thermal Instability in Overcharged Cathode Materials for Lithiumâ€Ion Batteries (Adv. Funct. Mater. 8/2013). Advanced Functional Materials, 2013, 23, 1046-1046.	7.8	7
82	Mesoporous nickel/carbon nanotube hybrid material prepared by electroless deposition. Journal of Materials Chemistry, 2011, 21, 1984-1990.	6.7	61
83	Spinel LiMn2O4/reduced graphene oxide hybrid for high rate lithium ion batteries. Journal of Materials Chemistry, 2011, 21, 17309.	6.7	138
84	Solid-state microwave irradiation synthesis of high quality graphenenanosheets under hydrogen containing atmosphere. Journal of Materials Chemistry, 2011, 21, 680-686.	6.7	138
85	Li4Ti5O12/reduced graphite oxide nano-hybrid material for high rate lithium-ion batteries. Electrochemistry Communications, 2010, 12, 1768-1771.	2.3	114
86	Nano-sized lithium manganese oxide dispersed on carbon nanotubes for energy storage applications. Electrochemistry Communications, 2009, 11, 1575-1578.	2.3	57