

Haegyeom Kim

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

85
papers

11,341
citations

52
h-index

95
g-index

95
ext. papers

13,053
ext. citations

17.1
avg. IF

6.49
L-index

#	Paper	IF	Citations
85	Understanding of electrochemical K ⁺ /Na ⁺ exchange mechanisms in layered oxides. <i>Energy Storage Materials</i> , 2022 , 47, 105-112	19.4	0
84	Solid-State Calcium-Ion Diffusion in Ca _{1.5} Ba _{0.5} Si ₅ O ₃ N ₆ . <i>Chemistry of Materials</i> , 2022 , 34, 128-139	9.6	1
83	Insights into Layered Oxide Cathodes for Rechargeable Batteries. <i>Molecules</i> , 2021 , 26,	4.8	3
82	Cation-disordered rocksalt-type high-entropy cathodes for Li-ion batteries. <i>Nature Materials</i> , 2021 , 20, 214-221	27	90
81	Promises and Challenges of Next-Generation "Beyond Li-ion" Batteries for Electric Vehicles and Grid Decarbonization. <i>Chemical Reviews</i> , 2021 , 121, 1623-1669	68.1	189
80	Computational and experimental search for potential polyanionic K-ion cathode materials. <i>Journal of Materials Chemistry A</i> , 2021 , 9, 18564-18575	13	4
79	Toward autonomous design and synthesis of novel inorganic materials. <i>Materials Horizons</i> , 2021 , 8, 2169-2198	11.8	16
78	Toward the Development of a High-Voltage Mg Cathode Using a Chromium Sulfide Host 2021 , 3, 1213-1220		2
77	Review on Interface and Interphase Issues in Sulfide Solid-State Electrolytes for All-Solid-State Li-Metal Batteries. <i>Electrochem</i> , 2021 , 2, 452-471	2.9	7
76	Synthetic accessibility and stability rules of NASICONs. <i>Nature Communications</i> , 2021 , 12, 5752	17.4	7
75	The interplay between thermodynamics and kinetics in the solid-state synthesis of layered oxides. <i>Nature Materials</i> , 2020 , 19, 1088-1095	27	57
74	Ultrahigh power and energy density in partially ordered lithium-ion cathode materials. <i>Nature Energy</i> , 2020 , 5, 213-221	62.3	91
73	Direct Observation of Alternating Octahedral and Prismatic Sodium Layers in O ₃ -Type Transition Metal Oxides. <i>Advanced Energy Materials</i> , 2020 , 10, 2001151	21.8	16
72	Multiscale factors in designing alkali-ion (Li, Na, and K) transition metal inorganic compounds for next-generation rechargeable batteries. <i>Energy and Environmental Science</i> , 2020 , 13, 4406-4449	35.4	33
71	Na ⁺ Redistribution by Electrochemical Na ⁺ /K ⁺ Exchange in Layered Na _x Ni ₂ SbO ₆ . <i>Chemistry of Materials</i> , 2020 , 32, 4312-4323	9.6	10
70	The Interplay between Thermodynamics and Kinetics in the Solid-State Synthesis of Layered Oxides. <i>ECS Meeting Abstracts</i> , 2020 , MA2020-02, 313-313	0	
69	Origin of Capacity Degradation of High-Voltage KVPO ₄ F Cathode. <i>Journal of the Electrochemical Society</i> , 2020 , 167, 110555	3.9	8

68	Design Principles for High-Capacity Mn-Based Cation-Disordered Rocksalt Cathodes. <i>CheM</i> , 2020 , 6, 153-168	16.8	54
67	A High-Energy NASICON-Type Cathode Material for Na-Ion Batteries. <i>Advanced Energy Materials</i> , 2020 , 10, 1903968	21.8	50
66	Investigation of Alkali-Ion (Li, Na, and K) Intercalation in K_xVPO_4F ($x \sim 0$) Cathode. <i>Advanced Functional Materials</i> , 2019 , 29, 1902392	15.6	19
65	Next-Generation Cathode Materials for Non-aqueous Potassium-Ion Batteries. <i>Trends in Chemistry</i> , 2019 , 1, 682-692	14.8	50
64	Hidden structural and chemical order controls lithium transport in cation-disordered oxides for rechargeable batteries. <i>Nature Communications</i> , 2019 , 10, 592	17.4	87
63	Graphitic Carbon Materials for Advanced Sodium-Ion Batteries. <i>Small Methods</i> , 2019 , 3, 1800227	12.8	56
62	Suppression of Voltage Decay through Manganese Deactivation and Nickel Redox Buffering in High-Energy Layered Lithium-Rich Electrodes. <i>Advanced Energy Materials</i> , 2018 , 8, 1800606	21.8	54
61	Intrinsic Nanodomains in Triplite $LiFeSO_4F$ and Its Implication in Lithium-Ion Diffusion. <i>Advanced Energy Materials</i> , 2018 , 8, 1701408	21.8	10
60	A New Strategy for High-Voltage Cathodes for K-Ion Batteries: Stoichiometric $KVPO_4F$. <i>Advanced Energy Materials</i> , 2018 , 8, 1801591	21.8	90
59	Recent Progress and Perspective in Electrode Materials for K-Ion Batteries. <i>Advanced Energy Materials</i> , 2018 , 8, 1702384	21.8	428
58	Stoichiometric Layered Potassium Transition Metal Oxide for Rechargeable Potassium Batteries. <i>Chemistry of Materials</i> , 2018 , 30, 6532-6539	9.6	73
57	Lithium-free transition metal monoxides for positive electrodes in lithium-ion batteries. <i>Nature Energy</i> , 2017 , 2,	62.3	72
56	Reaction chemistry in rechargeable Li-O batteries. <i>Chemical Society Reviews</i> , 2017 , 46, 2873-2888	58.5	234
55	K-Ion Batteries Based on a P2-Type $K_{0.6}CoO_2$ Cathode. <i>Advanced Energy Materials</i> , 2017 , 7, 1700098	21.8	208
54	Exploiting Lithium Ether Co-Intercalation in Graphite for High-Power Lithium-Ion Batteries. <i>Advanced Energy Materials</i> , 2017 , 7, 1700418	21.8	73
53	Investigation of Potassium Storage in Layered P3-Type $K MnO$ Cathode. <i>Advanced Materials</i> , 2017 , 29, 1702480	24	197
52	Communication $\text{P}3\text{-Type Layered Oxide with a Quaternary Transition Metal Composition for Na-Ion Battery Cathodes: } NaTi_{0.25}Fe_{0.25}Co_{0.25}Ni_{0.25}O_2$. <i>Journal of the Electrochemical Society</i> , 2017 , 164, A3484-A3486	3.9	11
51	Conditions for Reversible Na Intercalation in Graphite: Theoretical Studies on the Interplay Among Guest Ions, Solvent, and Graphite Host. <i>Advanced Energy Materials</i> , 2017 , 7, 1601519	21.8	151

50	Recent Progress in Electrode Materials for Sodium-Ion Batteries. <i>Advanced Energy Materials</i> , 2016 , 6, 1600943	21.8	686
49	Dissolution and ionization of sodium superoxide in sodium-oxygen batteries. <i>Nature Communications</i> , 2016 , 7, 10670	17.4	114
48	High-Performance Sodium-Ion Hybrid Supercapacitor Based on Nb ₂ O ₅ @Carbon Core-Shell Nanoparticles and Reduced Graphene Oxide Nanocomposites. <i>Advanced Functional Materials</i> , 2016 , 26, 3711-3719	15.6	312
47	Understanding Origin of Voltage Hysteresis in Conversion Reaction for Na Rechargeable Batteries: The Case of Cobalt Oxides. <i>Advanced Functional Materials</i> , 2016 , 26, 5042-5050	15.6	54
46	Restoration of thermally reduced graphene oxide by atomic-level selenium doping. <i>NPG Asia Materials</i> , 2016 , 8, e338-e338	10.3	31
45	A comparative study of graphite electrodes using the co-intercalation phenomenon for rechargeable Li, Na and K batteries. <i>Chemical Communications</i> , 2016 , 52, 12618-12621	5.8	74
44	Lithium-excess olivine electrode for lithium rechargeable batteries. <i>Energy and Environmental Science</i> , 2016 , 9, 2902-2915	35.4	36
43	Sodium intercalation chemistry in graphite. <i>Energy and Environmental Science</i> , 2015 , 8, 2963-2969	35.4	287
42	Ordered-mesoporous Nb ₂ O ₅ /carbon composite as a sodium insertion material. <i>Nano Energy</i> , 2015 , 16, 62-70	17.1	104
41	Facile Synthesis of Nb ₂ O ₅ @Carbon Core-Shell Nanocrystals with Controlled Crystalline Structure for High-Power Anodes in Hybrid Supercapacitors. <i>ACS Nano</i> , 2015 , 9, 7497-505	16.7	340
40	Sodium-Ion Storage in Pyroprotein-Based Carbon Nanoplates. <i>Advanced Materials</i> , 2015 , 27, 6914-21	24	107
39	High Energy Organic Cathode for Sodium Rechargeable Batteries. <i>Chemistry of Materials</i> , 2015 , 27, 7258-7264	20.64	122
38	Ultra-Thin Hollow Carbon Nanospheres for Pseudocapacitive Sodium-Ion Storage. <i>ChemElectroChem</i> , 2015 , 2, 359-365	4.3	63
37	Sodium Storage Behavior in Natural Graphite using Ether-based Electrolyte Systems. <i>Advanced Functional Materials</i> , 2015 , 25, 534-541	15.6	502
36	Energy Storage: Sodium Storage Behavior in Natural Graphite using Ether-based Electrolyte Systems (Adv. Funct. Mater. 4/2015). <i>Advanced Functional Materials</i> , 2015 , 25, 652-652	15.6	3
35	All-graphene-battery: bridging the gap between supercapacitors and lithium ion batteries. <i>Scientific Reports</i> , 2014 , 4, 5278	4.9	153
34	Superior rechargeability and efficiency of lithium-oxygen batteries: hierarchical air electrode architecture combined with a soluble catalyst. <i>Angewandte Chemie - International Edition</i> , 2014 , 53, 3926-31	16.4	360
33	Recent progress on flexible lithium rechargeable batteries. <i>Energy and Environmental Science</i> , 2014 , 7, 538-551	35.4	314

32	Novel transition-metal-free cathode for high energy and power sodium rechargeable batteries. <i>Nano Energy</i> , 2014 , 4, 97-104	17.1	57
31	The Reaction Mechanism and Capacity Degradation Model in Lithium Insertion Organic Cathodes, Li ₂ C ₆ O ₆ , Using Combined Experimental and First Principle Studies. <i>Journal of Physical Chemistry Letters</i> , 2014 , 5, 3086-92	6.4	71
30	Size-selective synthesis of mesoporous LiFePO ₄ /C microspheres based on nucleation and growth rate control of primary particles. <i>Journal of Materials Chemistry A</i> , 2014 , 2, 5922-5927	13	31
29	Advanced hybrid supercapacitor based on a mesoporous niobium pentoxide/carbon as high-performance anode. <i>ACS Nano</i> , 2014 , 8, 8968-78	16.7	339
28	Aqueous rechargeable Li and Na ion batteries. <i>Chemical Reviews</i> , 2014 , 114, 11788-827	68.1	929
27	Lithium-Ion Batteries: Organic Nanohybrids for Fast and Sustainable Energy Storage (Adv. Mater. 16/2014). <i>Advanced Materials</i> , 2014 , 26, 2608-2608	24	
26	Organic nanohybrids for fast and sustainable energy storage. <i>Advanced Materials</i> , 2014 , 26, 2558-65	24	174
25	Superior Rechargeability and Efficiency of Lithium-Oxygen Batteries: Hierarchical Air Electrode Architecture Combined with a Soluble Catalyst. <i>Angewandte Chemie</i> , 2014 , 126, 4007-4012	3.6	80
24	Anti-Site Reordering in LiFePO ₄ : Defect Annihilation on Charge Carrier Injection. <i>Chemistry of Materials</i> , 2014 , 26, 5345-5351	9.6	36
23	High-Performance Hybrid Supercapacitor Based on Graphene-Wrapped Li ₄ Ti ₅ O ₁₂ and Activated Carbon. <i>ChemElectroChem</i> , 2014 , 1, 125-130	4.3	127
22	Effects of sulfur doping on graphene-based nanosheets for use as anode materials in lithium-ion batteries. <i>Journal of Power Sources</i> , 2014 , 262, 79-85	8.9	183
21	Understanding the Degradation Mechanisms of LiNi _{0.5} Co _{0.2} Mn _{0.3} O ₂ Cathode Material in Lithium Ion Batteries. <i>Advanced Energy Materials</i> , 2014 , 4, 1300787	21.8	709
20	Graphene for advanced Li/S and Li/air batteries. <i>Journal of Materials Chemistry A</i> , 2014 , 2, 33-47	13	154
19	A new high-energy cathode for a Na-ion battery with ultrahigh stability. <i>Journal of the American Chemical Society</i> , 2013 , 135, 13870-8	16.4	343
18	A Novel High-Energy Hybrid Supercapacitor with an Anatase TiO ₂ -Reduced Graphene Oxide Anode and an Activated Carbon Cathode. <i>Advanced Energy Materials</i> , 2013 , 3, 1500-1506	21.8	451
17	Understanding the Electrochemical Mechanism of the New Iron-Based Mixed-Phosphate Na ₄ Fe ₃ (PO ₄) ₂ (P ₂ O ₇) in a Na Rechargeable Battery. <i>Chemistry of Materials</i> , 2013 , 25, 3614-3622	9.6	174
16	Mechanism of Co ₃ O ₄ /graphene catalytic activity in LiO ₂ batteries using carbonate based electrolytes. <i>Electrochimica Acta</i> , 2013 , 90, 63-70	6.7	44
15	Scalable functionalized graphene nano-platelets as tunable cathodes for high-performance lithium rechargeable batteries. <i>Scientific Reports</i> , 2013 , 3, 1506	4.9	79

14	Factors that Affect the Phase Behavior of Multi-Component Olivine ($\text{LiFexMnyCo}_{1-x-y}\text{PO}_4$; 0 . <i>Journal of the Electrochemical Society</i> , 2013 , 160, A444-A448	3.9	15
13	Defect-free solvothermally assisted synthesis of microspherical mesoporous LiFePO_4/C . <i>RSC Advances</i> , 2013 , 3, 3421	3.7	37
12	Multicomponent Effects on the Crystal Structures and Electrochemical Properties of Spinel-Structured M_3O_4 (M = Fe, Mn, Co) Anodes in Lithium Rechargeable Batteries. <i>Chemistry of Materials</i> , 2012 , 24, 720-725	9.6	122
11	Critical Role of Oxygen Evolved from Layered Li -excess Metal Oxides in Lithium Rechargeable Batteries. <i>Chemistry of Materials</i> , 2012 , 24, 2692-2697	9.6	213
10	The potential for long-term operation of a lithium-oxygen battery using a non-carbonate-based electrolyte. <i>Chemical Communications</i> , 2012 , 48, 8374-6	5.8	96
9	Nano-graphite platelet loaded with LiFePO_4 nanoparticles used as the cathode in a high performance Li-ion battery. <i>Carbon</i> , 2012 , 50, 1966-1971	10.4	30
8	Highly Laminated Electrospun ZnO Nanofibrous Film on the Transparent Conducting Oxide for Photovoltaic Device. <i>Journal of Electrochemical Science and Technology</i> , 2012 , 3, 68-71	3.2	2
7	Neutron and X-ray Diffraction Study of Pyrophosphate-Based $\text{Li}_2\text{MMP}_2\text{O}_7$ (M = Fe, Co) for Lithium Rechargeable Battery Electrodes. <i>Chemistry of Materials</i> , 2011 , 23, 3930-3937	9.6	92
6	Invited paper: Preparation and electrochemical characterization of doped spinel $\text{LiMn}_{1.88}\text{Ge}_{0.1}\text{Li}_{0.02}\text{O}_4$ cathode material. <i>Electronic Materials Letters</i> , 2011 , 7, 105-108	2.9	9
5	The predicted crystal structure of $\text{Li}_4\text{C}_6\text{O}_6$, an organic cathode material for Li-ion batteries, from first-principles multi-level computational methods. <i>Energy and Environmental Science</i> , 2011 , 4, 4938	35.4	38
4	Graphene-Based Hybrid Electrode Material for High-Power Lithium-Ion Batteries. <i>Journal of the Electrochemical Society</i> , 2011 , 158, A930	3.9	43
3	Highly reversible $\text{Co}_3\text{O}_4/\text{graphene}$ hybrid anode for lithium rechargeable batteries. <i>Carbon</i> , 2011 , 49, 326-332	10.4	327
2	Electrochemical and ex-situ analysis on manganese oxide/graphene hybrid anode for lithium rechargeable batteries. <i>Journal of Materials Research</i> , 2011 , 26, 2665-2671	2.5	31
1	$\text{SnO}_2/\text{graphene}$ composite with high lithium storage capability for lithium rechargeable batteries. <i>Nano Research</i> , 2010 , 3, 813-821	10	171