

Hyunchul Kim

List of Publications by Year in descending order

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44
papers

3,008
citations

186265
28
h-index

254184
43
g-index

46
all docs

46
docs citations

46
times ranked

4698
citing authors

#	ARTICLE	IF	CITATIONS
1	Cation-disordered rocksalt-type high-entropy cathodes for Li-ion batteries. <i>Nature Materials</i> , 2021, 20, 214-221.	27.5	290
2	Computational and experimental search for potential polyanionic K-ion cathode materials. <i>Journal of Materials Chemistry A</i> , 2021, 9, 18564-18575.	10.3	15
3	Na Redistribution Induced By K Intercalation during Na/K Ion Exchange in a Layered Oxide Cathode. <i>ECS Meeting Abstracts</i> , 2021, MA2021-01, 358-358.	0.0	0
4	Toward the Development of a High-Voltage Mg Cathode Using a Chromium Sulfide Host. , 2021, 3, 1213-1220.		12
5	Realizing continuous cation order-to-disorder tuning in a class of high-energy spinel-type Li-ion cathodes. <i>Matter</i> , 2021, 4, 3897-3916.	10.0	32
6	Catalytic effect of reduced graphene oxide on facilitating reversible conversion reaction in SnO ₂ for next-generation Li rechargeable batteries. <i>Journal of Power Sources</i> , 2020, 446, 227321.	7.8	24
7	Stabilizing effects of Al-doping on Ni-rich LiNi _{0.80} Co _{0.15} Mn _{0.05} O ₂ cathode for Li rechargeable batteries. <i>Journal of Power Sources</i> , 2020, 474, 228592.	7.8	105
8	Ultrahigh power and energy density in partially ordered lithium-ion cathode materials. <i>Nature Energy</i> , 2020, 5, 213-221.	39.5	158
9	Direct Observation of Alternating Octahedral and Prismatic Sodium Layers in O ₃ -type Transition Metal Oxides. <i>Advanced Energy Materials</i> , 2020, 10, 2001151.	19.5	39
10	Na ⁺ Redistribution by Electrochemical Na ⁺ /K ⁺ Exchange in Layered Na _x Ni ₂ SbO ₆ . <i>Chemistry of Materials</i> , 2020, 32, 4312-4323.	6.7	14
11	Tracking the Influence of Thermal Expansion and Oxygen Vacancies on the Thermal Stability of Ni-Rich Layered Cathode Materials. <i>Advanced Science</i> , 2020, 7, 1902413.	11.2	59
12	Phase Dynamics on Conversion-Reaction-Based Tin-Doped Ferrite Anode for Next-Generation Lithium Batteries. <i>ACS Nano</i> , 2019, 13, 5674-5685.	14.6	40
13	Computational Investigation and Experimental Realization of Disordered High-Capacity Li-Ion Cathodes Based on Ni Redox. <i>Chemistry of Materials</i> , 2019, 31, 2431-2442.	6.7	50
14	Mechanistic studies on reversible conversion reaction in Li ₂ MnO ₃ -carbon nanotube composite anode. <i>Journal of Power Sources</i> , 2019, 423, 323-330.	7.8	12
15	Comparative study of bulk and nano-structured mesoporous SnO ₂ electrodes on the electrochemical performances for next generation Li rechargeable batteries. <i>Journal of Power Sources</i> , 2019, 413, 241-249.	7.8	37
16	Exceptional Lithium Storage in a Co(OH) ₂ Anode: Hydride Formation. <i>ACS Nano</i> , 2018, 12, 2909-2921.	14.6	64
17	New Insight into Ni-Rich Layered Structure for Next-Generation Li Rechargeable Batteries. <i>Advanced Energy Materials</i> , 2018, 8, 1701788.	19.5	169
18	Shear-Assisted Formation of Cation-Disordered Rocksalt NaMO ₂ (M = Fe or Mn). <i>Chemistry of Materials</i> , 2018, 30, 8811-8821.	6.7	17

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19	Atomic-Layer Deposition into 2- versus 3-Dimensionally Ordered Nanoporous Media: Pore Size or Connectivity?. <i>Chemistry of Materials</i> , 2018, 30, 4748-4754.	6.7	14
20	Direct observation of pseudocapacitive sodium storage behavior in molybdenum dioxide anodes. <i>Journal of Power Sources</i> , 2018, 397, 113-123.	7.8	10
21	A New Strategy for High-Voltage Cathodes for K^+ Ion Batteries: Stoichiometric $\text{KVPO}_{4-x}\text{F}_x$. <i>Advanced Energy Materials</i> , 2018, 8, 1801591.	19.5	130
22	Enhancement of the interfacial reaction on mesoporous RuO_2 for next generation Li batteries. <i>Journal of Power Sources</i> , 2018, 396, 749-753.	7.8	18
23	Lithium-free transition metal monoxides for positive electrodes in lithium-ion batteries. <i>Nature Energy</i> , 2017, 2, .	39.5	94
24	Bulk layered heterojunction as an efficient electrocatalyst for hydrogen evolution. <i>Science Advances</i> , 2017, 3, e1602215.	10.3	85
25	Na^+ - FeF_2 nanocomposite: New type of Na-ion battery cathode material. <i>Nano Research</i> , 2017, 10, 4388-4397.	10.4	17
26	Formation of yttria-stabilized zirconia nanotubes by atomic layer deposition toward efficient solid electrolytes. <i>Nano Convergence</i> , 2017, 4, 31.	12.1	4
27	Synchrotron Radiation-Based X-Ray Study on Energy Storage Materials. , 2017, , .		0
28	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.	14.9	61
29	In situ analyses for ion storage materials. <i>Chemical Society Reviews</i> , 2016, 45, 5717-5770.	38.1	101
30	Evidence of reversible oxygen participation in anomalously high capacity Li- and Mn-rich cathodes for Li-ion batteries. <i>Nano Energy</i> , 2016, 21, 172-184.	16.0	127
31	Photoelectrochemical Properties of Vertically Aligned CuInS_2 Nanorod Arrays Prepared via Template-Assisted Growth and Transfer. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 425-431.	8.0	30
32	Probing the Additional Capacity and Reaction Mechanism of the RuO_2 Anode in Lithium Rechargeable Batteries. <i>ChemSusChem</i> , 2015, 8, 2378-2384.	6.8	52
33	<i>In Operando</i> Monitoring of the Pore Dynamics in Ordered Mesoporous Electrode Materials by Small Angle X-ray Scattering. <i>ACS Nano</i> , 2015, 9, 5470-5477.	14.6	38
34	Sodium intercalation chemistry in graphite. <i>Energy and Environmental Science</i> , 2015, 8, 2963-2969.	30.8	369
35	Rational syntheses of core-shell $\text{Fe}@\text{(PtRu)}$ nanoparticle electrocatalysts for the methanol oxidation reaction with complete suppression of CO-poisoning and highly enhanced activity. <i>Journal of Materials Chemistry A</i> , 2015, 3, 17154-17164.	10.3	135
36	Toward Coordinated Colloids: Site-Selective Growth of Titania on Patchy Silica Particles. <i>Scientific Reports</i> , 2015, 5, 9339.	3.3	9

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37	Deciphering the thermal behavior of lithium rich cathode material by in situ X-ray diffraction technique. <i>Journal of Power Sources</i> , 2015, 285, 156-160.	7.8	38
38	Enhanced stabilisation of tetragonal (t)-ZrO ₂ in the controlled nanotubular geometry. <i>RSC Advances</i> , 2015, 5, 80472-80479.	3.6	6
39	New Insight into the Reaction Mechanism for Exceptional Capacity of Ordered Mesoporous SnO ₂ Electrodes via Synchrotron-Based X-ray Analysis. <i>Chemistry of Materials</i> , 2014, 26, 6361-6370.	6.7	114
40	Understanding Photoluminescence of Monodispersed Crystalline Anatase TiO ₂ Nanotube Arrays. <i>Journal of Physical Chemistry C</i> , 2014, 118, 9726-9732.	3.1	46
41	In situ soft XAS study on nickel-based layered cathode material at elevated temperatures: A novel approach to study thermal stability. <i>Scientific Reports</i> , 2014, 4, 6827.	3.3	57
42	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.	6.7	237
43	Thermal stability of charged LiNi _{0.5} Co _{0.2} Mn _{0.3} O ₂ cathode for Li-ion batteries investigated by synchrotron based in situ X-ray diffraction. <i>Journal of Alloys and Compounds</i> , 2013, 562, 219-223.	5.5	62
44	Multisegmented nanotubes by surface-selective atomic layer deposition. <i>Journal of Materials Chemistry C</i> , 2013, 1, 621-625.	5.5	11