Hyunchul Kim

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/6227086/publications.pdf

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44	3,008	186265	254184
papers	citations	28 h-index	43 g-index

46	46	46	4698
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Sodium intercalation chemistry in graphite. Energy and Environmental Science, 2015, 8, 2963-2969.	30.8	369
2	Cation-disordered rocksalt-type high-entropy cathodes for Li-ion batteries. Nature Materials, 2021, 20, 214-221.	27.5	290
3	Understanding the Electrochemical Mechanism of the New Iron-Based Mixed-Phosphate Na₄Fe₃(PO₄)₂(P₂O₇) in a Na Rechargeable Battery. Chemistry of Materials, 2013, 25, 3614-3622.	6.7	237
4	New Insight into Niâ€Rich Layered Structure for Nextâ€Generation Li Rechargeable Batteries. Advanced Energy Materials, 2018, 8, 1701788.	19.5	169
5	Ultrahigh power and energy density in partially ordered lithium-ion cathode materials. Nature Energy, 2020, 5, 213-221.	39.5	158
6	Rational syntheses of coreâ€“shell Fe@(PtRu) nanoparticle electrocatalysts for the methanol oxidation reaction with complete suppression of CO-poisoning and highly enhanced activity. Journal of Materials Chemistry A, 2015, 3, 17154-17164.	10.3	135
7	A New Strategy for Highâ€Voltage Cathodes for Kâ€Ion Batteries: Stoichiometric KVPO₄F. Advanced Energy Materials, 2018, 8, 1801591.	19.5	130
8	Evidence of reversible oxygen participation in anomalously high capacity Li- and Mn-rich cathodes for Li-ion batteries. Nano Energy, 2016, 21, 172-184.	16.0	127
9	New Insight into the Reaction Mechanism for Exceptional Capacity of Ordered Mesoporous SnO₂ Electrodes via Synchrotron-Based X-ray Analysis. Chemistry of Materials, 2014, 26, 6361-6370.	6.7	114
10	Stabilizing effects of Al-doping on Ni-rich LiNi0.80Co0.15Mn0.05O2 cathode for Li rechargeable batteries. Journal of Power Sources, 2020, 474, 228592.	7.8	105
11	In situ analyses for ion storage materials. Chemical Society Reviews, 2016, 45, 5717-5770.	38.1	101
12	Lithium-free transition metal monoxides for positive electrodes in lithium-ion batteries. Nature Energy, 2017, 2, .	39.5	94
13	Bulk layered heterojunction as an efficient electrocatalyst for hydrogen evolution. Science Advances, 2017, 3, e1602215.	10.3	85
14	Exceptional Lithium Storage in a Co(OH)₂ Anode: Hydride Formation. ACS Nano, 2018, 12, 2909-2921.	14.6	64
15	Thermal stability of charged LiNi0.5Co0.2Mn0.3O2 cathode for Li-ion batteries investigated by synchrotron based in situ X-ray diffraction. Journal of Alloys and Compounds, 2013, 562, 219-223.	5.5	62
16	Understanding Origin of Voltage Hysteresis in Conversion Reaction for Na Rechargeable Batteries: The Case of Cobalt Oxides. Advanced Functional Materials, 2016, 26, 5042-5050.	14.9	61
17	Tracking the Influence of Thermal Expansion and Oxygen Vacancies on the Thermal Stability of Niâ€Rich Layered Cathode Materials. Advanced Science, 2020, 7, 1902413.	11.2	59
18	In situ soft XAS study on nickel-based layered cathode material at elevated temperatures: A novel approach to study thermal stability. Scientific Reports, 2014, 4, 6827.	3.3	57

#	Article	IF	Citations
19	Probing the Additional Capacity and Reaction Mechanism of the RuO₂ Anode in Lithium Rechargeable Batteries. ChemSusChem, 2015, 8, 2378-2384.	6.8	52
20	Computational Investigation and Experimental Realization of Disordered High-Capacity Li-Ion Cathodes Based on Ni Redox. Chemistry of Materials, 2019, 31, 2431-2442.	6.7	50
21	Understanding Photoluminescence of Monodispersed Crystalline Anatase TiO₂ Nanotube Arrays. Journal of Physical Chemistry C, 2014, 118, 9726-9732.	3.1	46
22	Phase Dynamics on Conversion-Reaction-Based Tin-Doped Ferrite Anode for Next-Generation Lithium Batteries. ACS Nano, 2019, 13, 5674-5685.	14.6	40
23	Direct Observation of Alternating Octahedral and Prismatic Sodium Layers in O3â€Type Transition Metal Oxides. Advanced Energy Materials, 2020, 10, 2001151.	19.5	39
24	In Operando Monitoring of the Pore Dynamics in Ordered Mesoporous Electrode Materials by Small Angle X-ray Scattering. ACS Nano, 2015, 9, 5470-5477.	14.6	38
25	Deciphering the thermal behavior of lithium rich cathode material by in situ X-ray diffraction technique. Journal of Power Sources, 2015, 285, 156-160.	7.8	38
26	Comparative study of bulk and nano-structured mesoporous SnO2 electrodes on the electrochemical performances for next generation Li rechargeable batteries. Journal of Power Sources, 2019, 413, 241-249.	7.8	37
27	Realizing continuous cation order-to-disorder tuning in a class of high-energy spinel-type Li-ion cathodes. Matter, 2021, 4, 3897-3916.	10.0	32
28	Photoelectrochemical Properties of Vertically Aligned CuInS₂ Nanorod Arrays Prepared via Template-Assisted Growth and Transfer. ACS Applied Materials & Interfaces, 2016, 8, 425-431.	8.0	30
29	Catalytic effect of reduced graphene oxide on facilitating reversible conversion reaction in SnO2 for next-generation Li rechargeable batteries. Journal of Power Sources, 2020, 446, 227321.	7.8	24
30	Enhancement of the interfacial reaction on mesoporous RuO2 for next generation Li batteries. Journal of Power Sources, 2018, 396, 749-753.	7.8	18
31	NaFâ€“FeF2 nanocomposite: New type of Na-ion battery cathode material. Nano Research, 2017, 10, 4388-4397.	10.4	17
32	Shear-Assisted Formation of Cation-Disordered Rocksalt NaMO₂ (M = Fe or Mn). Chemistry of Materials, 2018, 30, 8811-8821.	6.7	17
33	Computational and experimental search for potential polyanionic K-ion cathode materials. Journal of Materials Chemistry A, 2021, 9, 18564-18575.	10.3	15
34	Atomic-Layer Deposition into 2- versus 3-Dimensionally Ordered Nanoporous Media: Pore Size or Connectivity?. Chemistry of Materials, 2018, 30, 4748-4754.	6.7	14
35	Na⁺ Redistribution by Electrochemical Na⁺/K⁺ Exchange in Layered Na_xNi₂SbO₆. Chemistry of Materials, 2020, 32, 4312-4323.	6.7	14
36	Mechanistic studies on reversible conversion reaction in Li2MnO3-carbon nanotube composite anode. Journal of Power Sources, 2019, 423, 323-330.	7.8	12

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37	Toward the Development of a High-Voltage Mg Cathode Using a Chromium Sulfide Host. , 2021, 3, 1213-1220.		12
38	Multisegmented nanotubes by surface-selective atomic layer deposition. Journal of Materials Chemistry C, 2013, 1, 621-625.	5.5	11
39	Direct observation of pseudocapacitive sodium storage behavior in molybdenum dioxide anodes. Journal of Power Sources, 2018, 397, 113-123.	7.8	10
40	Toward Coordinated Colloids: Site-Selective Growth of Titania on Patchy Silica Particles. Scientific Reports, 2015, 5, 9339.	3.3	9
41	Enhanced stabilisation of tetragonal (t)-ZrO₂ in the controlled nanotubular geometry. RSC Advances, 2015, 5, 80472-80479.	3.6	6
42	Formation of yttria-stabilized zirconia nanotubes by atomic layer deposition toward efficient solid electrolytes. Nano Convergence, 2017, 4, 31.	12.1	4
43	Synchrotron Radiation-Based X-Ray Study on Energy Storage Materials. , 2017, , .		0
44	â€œNa Redistributionâ€•Induced By K Intercalation during Na/K Ion Exchange in a Layered Oxide Cathode. ECS Meeting Abstracts, 2021, MA2021-01, 358-358.	0.0	0