

Akihiro Kushima

List of Publications by Year in descending order

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51
papers

7,616
citations

117571

34
h-index

189801

50
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52
all docs

52
docs citations

52
times ranked

9975
citing authors

#	ARTICLE	IF	CITATIONS
1	A Liquidâ€Metal Electrocatalyst as a Selfâ€Healing Anchor to Suppress Polysulfide Shuttling in Lithiumâ€Sulfur Batteries. Batteries and Supercaps, 2022, 5, .	2.4	1
2	A strategy for power generation from bilgewater using a photosynthetic microalgal fuel cell (MAFC). Journal of Power Sources, 2021, 484, 229222.	4.0	10
3	Polymer-Derived Ceramic Nanoparticle/Edge-Functionalized Graphene Oxide Composites for Lithium-Ion Storage. ACS Applied Materials & Interfaces, 2021, 13, 9794-9803.	4.0	9
4	Direct Observation and Quantitative Analysis of Lithium Dendrite Growth by In Situ Transmission Electron Microscopy. Journal of the Electrochemical Society, 2021, 168, 020535.	1.3	11
5	Fluorescent H-Aggregate Vesicles and Tubes of a Cyanine Dye and Their Potential as Light-Harvesting Antennae. Journal of Physical Chemistry B, 2021, 125, 7911-7918.	1.2	7
6	CO ₂ Bubble-Assisted Pt Exposure in PtFeNi Porous Film for High-Performance Zinc-Air Battery. Journal of the American Chemical Society, 2021, 143, 11595-11601.	6.6	34
7	Stable, high-performance, dendrite-free, seawater-based aqueous batteries. Nature Communications, 2021, 12, 237.	5.8	174
8	Semiconducting Polymer Interfaces for Electrochemically Assisted Mercury Remediation. ACS Applied Materials & Interfaces, 2020, 12, 49713-49722.	4.0	22
9	Antioxidant properties of ALD grown nanoceria films with tunable valency. Biomaterials Science, 2019, 7, 3051-3061.	2.6	20
10	Self-healing SEI enables full-cell cycling of a silicon-majority anode with a coulombic efficiency exceeding 99.9%. Energy and Environmental Science, 2017, 10, 580-592.	15.6	421
11	Coordination Polymers Derived General Synthesis of Multishelled Mixed Metalâ€Oxide Particles for Hybrid Supercapacitors. Advanced Materials, 2017, 29, 1605902.	11.1	345
12	Conductive graphene oxide-polyacrylic acid (GOPAA) binder for lithium-sulfur battery. Nano Energy, 2017, 31, 568-574.	8.2	147
13	Liquid cell transmission electron microscopy observation of lithium metal growth and dissolution: Root growth, dead lithium and lithium flotsams. Nano Energy, 2017, 32, 271-279.	8.2	361
14	<i>Ad hoc</i> solid electrolyte on acidized carbon nanotube paper improves cycle life of lithiumâ€sulfur batteries. Energy and Environmental Science, 2017, 10, 2544-2551.	15.6	82
15	A thin multifunctional coating on a separator improves the cyclability and safety of lithium sulfur batteries. Chemical Science, 2017, 8, 6619-6625.	3.7	94
16	Anion-redox nanolithia cathodes for Li-ion batteries. Nature Energy, 2016, 1, .	19.8	171
17	Dispersion of carbon nanotubes in aluminum improves radiation resistance. Nano Energy, 2016, 22, 319-327.	8.2	55
18	Ripplacations in van der Waals Layers. Nano Letters, 2015, 15, 1302-1308.	4.5	114

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19	Charging/Discharging Nanomorphology Asymmetry and Rate-Dependent Capacity Degradation in Li ⁺ Oxygen Battery. Nano Letters, 2015, 15, 8260-8265.	4.5	97
20	In Situ Observation of Random Solid Solution Zone in LiFePO ₄ Electrode. Nano Letters, 2014, 14, 4005-4010.	4.5	104
21	Scalable synthesis of a sulfur nanosponge cathode for a lithium-sulfur battery with improved cyclability. Journal of Materials Chemistry A, 2014, 2, 19788-19796.	5.2	12
22	Probing the Failure Mechanism of SnO ₂ Nanowires for Sodium-Ion Batteries. Nano Letters, 2013, 13, 5203-5211.	4.5	270
23	In Situ Atomic-Scale Imaging of Phase Boundary Migration in FePO ₄ Microparticles During Electrochemical Lithiation. Advanced Materials, 2013, 25, 5461-5466.	11.1	119
24	Nanowire liquid pumps. Nature Nanotechnology, 2013, 8, 277-281.	15.6	96
25	Fanet al.Reply:. Physical Review Letters, 2012, 108, .	2.9	6
26	Quantitative Fracture Strength and Plasticity Measurements of Lithiated Silicon Nanowires by In Situ TEM Tensile Experiments. ACS Nano, 2012, 6, 9425-9432.	7.3	106
27	In Situ TEM Experiments of Electrochemical Lithiation and Delithiation of Individual Nanostructures. Advanced Energy Materials, 2012, 2, 722-741.	10.2	341
28	In situ transmission electron microscopy of electrochemical lithiation, delithiation and deformation of individual graphene nanoribbons. Carbon, 2012, 50, 3836-3844.	5.4	98
29	Interstitialcy diffusion of oxygen in tetragonal La ₂ CoO ₄ . Physical Chemistry Chemical Physics, 2011, 13, 2242-2249.	1.3	104
30	Leapfrog Cracking and Nanoamorphization of ZnO Nanowires during In Situ Electrochemical Lithiation. Nano Letters, 2011, 11, 4535-4541.	4.5	169
31	Lithium fiber growth on the anode in a nanowire lithium ion battery during charging. Applied Physics Letters, 2011, 98, .	1.5	80
32	Anisotropic Swelling and Fracture of Silicon Nanowires during Lithiation. Nano Letters, 2011, 11, 3312-3318.	4.5	691
33	Lithiation-Induced Embrittlement of Multiwalled Carbon Nanotubes. ACS Nano, 2011, 5, 7245-7253.	7.3	122
34	Time scale bridging in atomistic simulation of slow dynamics: viscous relaxation and defect activation. European Physical Journal B, 2011, 82, 271-293.	0.6	36
35	Mechanism of Void Nucleation and Growth in bcc Fe: Atomistic Simulations at Experimental Time Scales. Physical Review Letters, 2011, 106, 125501.	2.9	64
36	Computing the Viscosity of Supercooled Liquids: Markov Network Model. PLoS ONE, 2011, 6, e17909.	1.1	28

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37	In Situ Observation of the Electrochemical Lithiation of a Single SnO ₂ Nanowire Electrode. <i>Science</i> , 2010, 330, 1515-1520.	6.0	1,430
38	Competing strain effects in reactivity of LaCoO_3 oxygen. <i>Physical Review B</i> , 2010, 82, .	1.1	110
39	Atomistic Simulation of Creep in a Nanocrystal. <i>Physical Review Letters</i> , 2010, 104, 175501.	2.9	68
40	Unfaulting mechanism of trapped self-interstitial atom clusters in bcc Fe: A kinetic study based on the potential energy landscape. <i>Physical Review B</i> , 2010, 81, .	1.1	42
41	Oxygen ion diffusivity in strained yttria stabilized zirconia: where is the fastest strain?. <i>Journal of Materials Chemistry</i> , 2010, 20, 4809.	6.7	296
42	Role of Lattice Strain and Defect Chemistry on the Oxygen Vacancy Migration at the (8.3%) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 547 T Principles Study. <i>ECS Transactions</i> , 2009, 25, 1599-1609.	0.3	22
43	Commentary on the temperature-dependent viscosity of supercooled liquids: a unified activation scenario. <i>Journal of Physics Condensed Matter</i> , 2009, 21, 504104.	0.7	7
44	An atomistic method for slow structural deformations. <i>IOP Conference Series: Materials Science and Engineering</i> , 2009, 3, 012002.	0.3	6
45	Computing the viscosity of supercooled liquids. <i>Journal of Chemical Physics</i> , 2009, 130, 224504.	1.2	128
46	A realistic molecular model of cement hydrates. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 16102-16107.	3.3	734
47	Computing the viscosity of supercooled liquids. II. Silica and strong-fragile crossover behavior. <i>Journal of Chemical Physics</i> , 2009, 131, 164505.	1.2	44
48	Ideal strength of a Cu multi-shell nano-wire. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2006, 14, 1031-1039.	0.8	8
49	Ab initio study of the surface properties and ideal strength of (100) silicon thin films. <i>Physical Review B</i> , 2005, 72, .	1.1	59
50	Metallic-semiconducting transition of single-walled carbon nanotubes under high axial strain. <i>Computational Materials Science</i> , 2004, 31, 33-41.	1.4	18
51	Theoretical analysis on electronic properties of zigzag-type single-walled carbon nanotubes under radial deformation. <i>Computational Materials Science</i> , 2004, 30, 283-287.	1.4	22