Akihiro Kushima

List of Publications by Year
in descending order

51 papers	7,616 citations	117571 34 h-index	189801 50 g-index
52 all docs	52 docs citations	52 times ranked	9975 citing authors

#	Article	IF	Citations
1	In Situ Observation of the Electrochemical Lithiation of a Single SnO ₂ Nanowire Electrode. Science, 2010, 330, 1515-1520.	6.0	1,430
2	A realistic molecular model of cement hydrates. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 16102-16107.	3.3	734
3	Anisotropic Swelling and Fracture of Silicon Nanowires during Lithiation. Nano Letters, 2011, 11, 3312-3318.	4.5	691
4	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
5	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
6	Coordination Polymers Derived General Synthesis of Multishelled Mixed Metalâ€Oxide Particles for Hybrid Supercapacitors. Advanced Materials, 2017, 29, 1605902.	11.1	345
7	In Situ TEM Experiments of Electrochemical Lithiation and Delithiation of Individual Nanostructures. Advanced Energy Materials, 2012, 2, 722-741.	10.2	341
8	Oxygen ion diffusivity in strained yttria stabilized zirconia: where is the fastest strain?. Journal of Materials Chemistry, 2010, 20, 4809.	6.7	296
9	Probing the Failure Mechanism of SnO₂ Nanowires for Sodium-Ion Batteries. Nano Letters, 2013, 13, 5203-5211.	4.5	270
10	Stable, high-performance, dendrite-free, seawater-based aqueous batteries. Nature Communications, 2021, 12, 237.	5.8	174
11	Anion-redox nanolithia cathodes for Li-ion batteries. Nature Energy, 2016, 1, .	19.8	171
12	Leapfrog Cracking and Nanoamorphization of ZnO Nanowires during In Situ Electrochemical Lithiation. Nano Letters, 2011, 11, 4535-4541.	4.5	169
13	Conductive graphene oxide-polyacrylic acid (GOPAA) binder for lithium-sulfur battery. Nano Energy, 2017, 31, 568-574.	8.2	147
14	Computing the viscosity of supercooled liquids. Journal of Chemical Physics, 2009, 130, 224504.	1.2	128
15	Lithiation-Induced Embrittlement of Multiwalled Carbon Nanotubes. ACS Nano, 2011, 5, 7245-7253.	7.3	122
16	In Situ Atomicâ€Scale Imaging of Phase Boundary Migration in FePO₄ Microparticles During Electrochemical Lithiation. Advanced Materials, 2013, 25, 5461-5466.	11.1	119
17	Ripplocations in van der Waals Layers. Nano Letters, 2015, 15, 1302-1308.	4.5	114
18	Competing strain effects in reactivity of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>LaCoO</mml:mtext></mml:mrow><mml:mn>3</mml:mn></mml: oxygen. Physical Review B, 2010, 82, .	1.1	110

#	Article	IF	Citations
19	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
20	Interstitialcy diffusion of oxygen in tetragonal La₂CoO₄₊Î´. Physical Chemistry Chemical Physics, 2011, 13, 2242-2249.	1.3	104
21	In Situ Observation of Random Solid Solution Zone in LiFePO₄ Electrode. Nano Letters, 2014, 14, 4005-4010.	4.5	104
22	In situ transmission electron microscopy of electrochemical lithiation, delithiation and deformation of individual graphene nanoribbons. Carbon, 2012, 50, 3836-3844.	5.4	98
23	Charging/Discharging Nanomorphology Asymmetry and Rate-Dependent Capacity Degradation in Liâ€“Oxygen Battery. Nano Letters, 2015, 15, 8260-8265.	4.5	97
24	Nanowire liquid pumps. Nature Nanotechnology, 2013, 8, 277-281.	15.6	96
25	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
26	Ad hoc 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
27	Lithium fiber growth on the anode in a nanowire lithium ion battery during charging. Applied Physics Letters, 2011, 98, .	1.5	80
28	Atomistic Simulation of Creep in a Nanocrystal. Physical Review Letters, 2010, 104, 175501.	2.9	68
29	Mechanism of Void Nucleation and Growth in bcc Fe: Atomistic Simulations at Experimental Time Scales. Physical Review Letters, 2011, 106, 125501.	2.9	64
30	Ab initiostudy of the surface properties and ideal strength of (100) silicon thin films. Physical Review B, 2005, 72, .	1.1	59
31	Dispersion of carbon nanotubes in aluminum improves radiation resistance. Nano Energy, 2016, 22, 319-327.	8.2	55
32	Computing the viscosity of supercooled liquids. II. Silica and strong-fragile crossover behavior. Journal of Chemical Physics, 2009, 131, 164505.	1.2	44
33	Unfaulting mechanism of trapped self-interstitial atom clusters in bcc Fe: A kinetic study based on the potential energy landscape. Physical Review B, 2010, 81, .	1.1	42
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	CO₂ 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
36	Computing the Viscosity of Supercooled Liquids: Markov Network Model. PLoS ONE, 2011, 6, e17909.	1.1	28

#	Article	IF	Citations
37	Theoretical analysis on electronic properties of zigzag-type single-walled carbon nanotubes under radial deformation. Computational Materials Science, 2004, 30, 283-287.	1.4	22
38	Role of Lattice Strain and Defect Chemistry on the Oxygen Vacancy Migration at the (8.3%) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 707 T Principles Study. ECS Transactions, 2009, 25, 1599-1609.	0.3	22
39	Semiconducting Polymer Interfaces for Electrochemically Assisted Mercury Remediation. ACS Applied Materials & Interfaces, 2020, 12, 49713-49722.	4.0	22
40	Antioxidant properties of ALD grown nanoceria films with tunable valency. Biomaterials Science, 2019, 7, 3051-3061.	2.6	20
41	Metallicâ€“semiconducting transition of single-walled carbon nanotubes under high axial strain. Computational Materials Science, 2004, 31, 33-41.	1.4	18
42	Scalable synthesis of a sulfur nanosponge cathode for a lithiumâ€“sulfur battery with improved cyclability. Journal of Materials Chemistry A, 2014, 2, 19788-19796.	5.2	12
43	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
44	A strategy for power generation from bilgewater using a photosynthetic microalgal fuel cell (MAFC). Journal of Power Sources, 2021, 484, 229222.	4.0	10
45	Polymer-Derived Ceramic Nanoparticle/Edge-Functionalized Graphene Oxide Composites for Lithium-Ion Storage. ACS Applied Materials & Interfaces, 2021, 13, 9794-9803.	4.0	9
46	Ideal strength of a Cu multi-shell nano-wire. Modelling and Simulation in Materials Science and Engineering, 2006, 14, 1031-1039.	0.8	8
47	Commentary on the temperature-dependent viscosity of supercooled liquids: a unified activation scenario. Journal of Physics Condensed Matter, 2009, 21, 504104.	0.7	7
48	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
49	An atomistic method for slow structural deformations. IOP Conference Series: Materials Science and Engineering, 2009, 3, 012002.	0.3	6
50	Fanet al.Reply:. Physical Review Letters, 2012, 108, .	2.9	6
51	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