

In-Suk Choi

List of Publications by Year in descending order

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59
papers

2,076
citations

218677

26
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233421

45
g-index

61
all docs

61
docs citations

61
times ranked

3244
citing authors

#	ARTICLE	IF	CITATIONS
1	Engineering the shape and structure of materials by fractal cut. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 17390-17395.	7.1	265
2	Fabrication of Si core/C shell nanofibers and their electrochemical performances as a lithium-ion battery anode. Journal of Power Sources, 2012, 206, 267-273.	7.8	136
3	Electric current-assisted deformation behavior of Al-Mg-Si alloy under uniaxial tension. International Journal of Plasticity, 2017, 94, 148-170.	8.8	106
4	Origin of Size Dependency in Coherent-Twin-Propagation-Mediated Tensile Deformation of Noble Metal Nanowires. Nano Letters, 2013, 13, 5112-5116.	9.1	88
5	Highly durable and flexible dye-sensitized solar cells fabricated on plastic substrates: PVDF-nanofiber-reinforced TiO ₂ photoelectrodes. Energy and Environmental Science, 2012, 5, 8950.	30.8	87
6	Exploring Nanomechanical Behavior of Silicon Nanowires: AFM Bending Versus Nanoindentation. Advanced Functional Materials, 2011, 21, 279-286.	14.9	79
7	A Half Millimeter Thick Coplanar Flexible Battery with Wireless Recharging Capability. Nano Letters, 2015, 15, 2350-2357.	9.1	78
8	Crack nucleation during mechanical fatigue in thin metal films on flexible substrates. Acta Materialia, 2013, 61, 3473-3481.	7.9	76
9	Directing the Deformation Paths of Soft Metamaterials with Prescribed Asymmetric Units. Advanced Materials, 2015, 27, 2747-2752.	21.0	60
10	Theoretical Evidence for Low Charging Overpotentials of Superoxide Discharge Products in Metal-Oxygen Batteries. Chemistry of Materials, 2015, 27, 8406-8413.	6.7	59
11	Stretching-Induced Growth of PEDOT-Rich Cores: A New Mechanism for Strain-Dependent Resistivity Change in PEDOT:PSS Films. Advanced Functional Materials, 2013, 23, 4020-4027.	14.9	54
12	Design of super-conformable, foldable materials via fractal cuts and lattice kirigami. MRS Bulletin, 2016, 41, 130-138.	3.5	54
13	Elucidating the origin of electroplasticity in metallic materials. Applied Materials Today, 2020, 21, 100874.	4.3	50
14	Fatigue-Free, Electrically Reliable Copper Electrode with Nanohole Array. Small, 2012, 8, 3300-3306.	10.0	48
15	Orientation-dependent indentation response of magnesium single crystals: Modeling and experiments. Acta Materialia, 2014, 81, 358-376.	7.9	48
16	High-temperature tensile and creep deformation of cross-weld specimens of weld joint between T92 martensitic and Super304H austenitic steels. Materials Characterization, 2014, 97, 161-168.	4.4	47
17	Auxetic elastomers: Mechanically programmable meta-elastomers with an unusual Poisson's ratio overcome the gauge limit of a capacitive type strain sensor. Extreme Mechanics Letters, 2019, 31, 100516.	4.1	46
18	Effect of film thickness on the stretchability and fatigue resistance of Cu films on polymer substrates. Journal of Materials Research, 2014, 29, 2827-2834.	2.6	43

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19	Dehydrogenation Reaction Pathway of the LiBH ₄ –MgH ₂ Composite under Various Pressure Conditions. <i>Journal of Physical Chemistry C</i> , 2015, 119, 9714-9720.	3.1	39
20	Computational wrapping: A universal method to wrap 3D-curved surfaces with nonstretchable materials for conformal devices. <i>Science Advances</i> , 2020, 6, eaax6212.	10.3	39
21	Less strained and more efficient GaN light-emitting diodes with embedded silica hollow nanospheres. <i>Scientific Reports</i> , 2013, 3, 3201.	3.3	37
22	Reliability Issues and Solutions in Flexible Electronics Under Mechanical Fatigue. <i>Electronic Materials Letters</i> , 2018, 14, 387-404.	2.2	37
23	Growth Mechanism of Strain-Dependent Morphological Change in PEDOT:PSS Films. <i>Scientific Reports</i> , 2016, 6, 25332.	3.3	33
24	Unraveling the origin of strain-induced precipitation of M ₂₃ C ₆ in the plastically deformed 347 Austenite stainless steel. <i>Materials Characterization</i> , 2014, 94, 7-13.	4.4	30
25	Development of nano-crystalline cold sprayed Ni–20Cr coatings for high temperature oxidation resistance. <i>Surface and Coatings Technology</i> , 2015, 266, 122-133.	4.8	29
26	Improving mechanical fatigue resistance by optimizing the nanoporous structure of inkjet-printed Ag electrodes for flexible devices. <i>Nanotechnology</i> , 2014, 25, 125706.	2.6	26
27	Selective crack suppression during deformation in metal films on polymer substrates using electron beam irradiation. <i>Nature Communications</i> , 2019, 10, 4454.	12.8	26
28	Sputtered Titanium Nitride Films on Titanium Foam Substrates as Electrodes for High-Power Electrochemical Capacitors. <i>ChemElectroChem</i> , 2018, 5, 2199-2207.	3.4	25
29	All-Inkjet-Printed Flexible Nanobio-Devices with Efficient Electrochemical Coupling Using Amphiphilic Biomaterials. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 24231-24241.	8.0	25
30	Face-Centered-Cubic Lithium Crystals Formed in Mesopores of Carbon Nanofiber Electrodes. <i>ACS Nano</i> , 2013, 7, 5801-5807.	14.6	24
31	Development of high strength hot rolled low carbon copper-bearing steel containing nanometer sized carbides. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015, 633, 1-8.	5.6	24
32	Hydrodynamic Assembly of Conductive Nanomesh of Single-Walled Carbon Nanotubes Using Biological Glue. <i>Advanced Materials</i> , 2015, 27, 922-928.	21.0	23
33	Ultrahigh Tensile Strength Nanowires with a Ni/Ni–Au Multilayer Nanocrystalline Structure. <i>Nano Letters</i> , 2016, 16, 3500-3506.	9.1	21
34	Measurement of Young's modulus of anisotropic materials using microcompression testing. <i>Journal of Materials Research</i> , 2012, 27, 2752-2759.	2.6	19
35	A Bendable Li-Ion Battery with a Nano-Hairy Electrode: Direct Integration Scheme on the Polymer Substrate. <i>Advanced Energy Materials</i> , 2015, 5, 1400611.	19.5	19
36	Microstructural evolution and high temperature oxidation characteristics of cold sprayed Ni-20Cr nanostructured alloy coating. <i>Surface and Coatings Technology</i> , 2019, 362, 333-344.	4.8	16

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37	Effect of preexisting plastic deformation on the creep behavior of TP347 austenitic steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016, 654, 390-399.	5.6	15
38	Extremely Versatile Deformability beyond Materiality: A New Material Platform through Simple Cutting for Rugged Batteries. <i>Advanced Engineering Materials</i> , 2019, 21, 1900206.	3.5	15
39	Deciphering Evolution Pathway of Supported NO ₃ ⁻ Enabled via Radical Transfer from ⁻ OH to Surface NO ₃ ⁻ Functionality for Oxidative Degradation of Aqueous Contaminants. <i>Jacs Au</i> , 2021, 1, 1158-1177.	7.9	15
40	Ultrafast chemical lithiation of single crystalline silicon nanowires: in situ characterization and first principles modeling. <i>RSC Advances</i> , 2015, 5, 17438-17443.	3.6	11
41	Biotemplated Nanocomposites of Transition-Metal Oxides/Carbon Nanotubes with Highly Stable and Efficient Electrochemical Interfaces for High-Power Lithium-Ion Batteries. <i>ACS Applied Energy Materials</i> , 2020, 3, 7804-7812.	5.1	11
42	Carbon Nanosheet Based Large Area Electrochemical Capacitor that is Flexible, Foldable, Twistable, and Stretchable. <i>Small</i> , 2018, 14, e1702145.	10.0	10
43	Mechanical Properties and Piezoresistivity of Tellurium Nanowires. <i>Journal of Physical Chemistry C</i> , 2019, 123, 22578-22585.	3.1	10
44	Study of architectural responses of 3D periodic cellular materials. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2013, 21, 065018.	2.0	9
45	Transforming One-Dimensional Nanowalls to Long-Range Ordered Two-Dimensional Nanowaves: Exploiting Buckling Instability and Nanofibers Effect in Holographic Lithography. <i>Advanced Functional Materials</i> , 2014, 24, 2361-2366.	14.9	9
46	Anomalous Staged Lithiation of Gold-Coated Silicon Nanowires: A Combined In Situ Characterization and First-Principles Study. <i>ACS Applied Materials & Interfaces</i> , 2015, 7, 16976-16983.	8.0	9
47	Flaw-Containing Alumina Hollow Nanostructures Have Ultrahigh Fracture Strength To Be Incorporated into High-Efficiency GaN Light-Emitting Diodes. <i>Nano Letters</i> , 2018, 18, 1323-1330.	9.1	9
48	Understanding dual precipitation strengthening in ultra-high strength low carbon steel containing nano-sized copper precipitates and carbides. <i>Nano Convergence</i> , 2017, 4, 16.	12.1	8
49	Validity of the reduced modulus concept to describe indentation loading response for elastoplastic materials with sharp indenters. <i>Journal of Materials Research</i> , 2009, 24, 998-1006.	2.6	7
50	High temperature low cycle fatigue properties of 24Cr ferritic stainless steel for SOFC applications. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013, 577, 81-86.	5.6	6
51	The Limits of Electromechanical Coupling in Highly-Tensile Strained Germanium. <i>Nano Letters</i> , 2020, 20, 3492-3498.	9.1	4
52	Large-Scale, Lightweight, and Robust Nanocomposites Based on Ruthenium-Decorated Carbon Nanosheets for Deformable Electrochemical Capacitors. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 12193-12203.	8.0	4
53	Electrophoretic kinetics of concentrated TiO ₂ nanoparticle suspensions in aprotic solvent. <i>Electronic Materials Letters</i> , 2018, 14, 79-82.	2.2	2
54	Recent Progress in Shape-Transformable Materials and Their Applications. <i>Electronic Materials Letters</i> , 2022, 18, 215-231.	2.2	2

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55	Electromigration-Induced Stress Interaction between Via and Polygranular Cluster. Materials Research Society Symposia Proceedings, 2000, 612, 8111.	0.1	1
56	Phase dependent magnetic properties of Ni-Au alloy nanowires. Materials Letters, 2014, 116, 86-90.	2.6	1
57	<i>In situ</i> Measurement of the Adhesion Strength and Effective Elastic Stiffness of Single Soft Micropillar. Journal of Adhesion, 2015, 91, 369-380.	3.0	0
58	Dehydrogenation Reaction Kinetics of the LiBH ₄ -YH ₃ Composite Promoted by Various Inert Gas Atmospheres. Journal of Nanoscience and Nanotechnology, 2016, 16, 10869-10873.	0.9	0
59	Supercapacitors: Carbon-Nanosheet Based Large-Area Electrochemical Capacitor that is Flexible, Foldable, Twistable, and Stretchable (Small 43/2018). Small, 2018, 14, 1870198.	10.0	0