

In-Suk Choi

List of Publications by Year in descending order

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papers

2,076
citations

218677

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#	ARTICLE	IF	CITATIONS
1	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
2	Recent Progress in Shape-Transformable Materials and Their Applications. <i>Electronic Materials Letters</i> , 2022, 18, 215-231.	2.2	2
3	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
4	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
5	Elucidating the origin of electroplasticity in metallic materials. <i>Applied Materials Today</i> , 2020, 21, 100874.	4.3	50
6	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
7	The Limits of Electromechanical Coupling in Highly-Tensile Strained Germanium. <i>Nano Letters</i> , 2020, 20, 3492-3498.	9.1	4
8	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
9	Mechanical Properties and Piezoresistivity of Tellurium Nanowires. <i>Journal of Physical Chemistry C</i> , 2019, 123, 22578-22585.	3.1	10
10	Auxetic elastomers: Mechanically programmable meta-elastomers with an unusual Poisson's ratio overcome the gauge limit of a capacitive type strain sensor. <i>Extreme Mechanics Letters</i> , 2019, 31, 100516.	4.1	46
11	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
12	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
13	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
14	Reliability Issues and Solutions in Flexible Electronics Under Mechanical Fatigue. <i>Electronic Materials Letters</i> , 2018, 14, 387-404.	2.2	37
15	Carbon-Nanosheet Based Large-Area Electrochemical Capacitor that is Flexible, Foldable, Twistable, and Stretchable. <i>Small</i> , 2018, 14, e1702145.	10.0	10
16	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
17	Electrophoretic kinetics of concentrated TiO ₂ nanoparticle suspensions in aprotic solvent. <i>Electronic Materials Letters</i> , 2018, 14, 79-82.	2.2	2
18	Supercapacitors: Carbon-Nanosheet Based Large-Area Electrochemical Capacitor that is Flexible, Foldable, Twistable, and Stretchable (<i>Small</i> 43/2018). <i>Small</i> , 2018, 14, 1870198.	10.0	0

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19	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
20	Electric current assisted deformation behavior of Al-Mg-Si alloy under uniaxial tension. <i>International Journal of Plasticity</i> , 2017, 94, 148-170.	8.8	106
21	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
22	Dehydrogenation Reaction Kinetics of the LiBH ₄ /Mg ₃ Si ₂ Composite Promoted by Various Inert Gas Atmospheres. <i>Journal of Nanoscience and Nanotechnology</i> , 2016, 16, 10869-10873.	0.9	0
23	Design of super-conformable, foldable materials via fractal cuts and lattice kirigami. <i>MRS Bulletin</i> , 2016, 41, 130-138.	3.5	54
24	Ultrahigh Tensile Strength Nanowires with a Ni/Ni ₂ Au Multilayer Nanocrystalline Structure. <i>Nano Letters</i> , 2016, 16, 3500-3506.	9.1	21
25	Growth Mechanism of Strain-Dependent Morphological Change in PEDOT:PSS Films. <i>Scientific Reports</i> , 2016, 6, 25332.	3.3	33
26	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
27	A Half Millimeter Thick Coplanar Flexible Battery with Wireless Recharging Capability. <i>Nano Letters</i> , 2015, 15, 2350-2357.	9.1	78
28	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
29	Theoretical Evidence for Low Charging Overpotentials of Superoxide Discharge Products in Metal Oxygen Batteries. <i>Chemistry of Materials</i> , 2015, 27, 8406-8413.	6.7	59
30	Anomalous Stagewise 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
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	Development of nano-crystalline cold sprayed Ni ₂₀ Cr coatings for high temperature oxidation resistance. <i>Surface and Coatings Technology</i> , 2015, 266, 122-133.	4.8	29
33	<i>In situ</i> Measurement of the Adhesion Strength and Effective Elastic Stiffness of Single Soft Micropillar. <i>Journal of Adhesion</i> , 2015, 91, 369-380.	3.0	0
34	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
35	Directing the Deformation Paths of Soft Metamaterials with Prescribed Asymmetric Units. <i>Advanced Materials</i> , 2015, 27, 2747-2752.	21.0	60
36	Hydrodynamic Assembly of Conductive Nanomesh of Single-Walled Carbon Nanotubes Using Biological Glue. <i>Advanced Materials</i> , 2015, 27, 922-928.	21.0	23

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37	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
38	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
39	Engineering the shape and structure of materials by fractal cut. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 17390-17395.	7.1	265
40	Effect of film thickness on the stretchability and fatigue resistance of Cu films on polymer substrates. <i>Journal of Materials Research</i> , 2014, 29, 2827-2834.	2.6	43
41	Phase dependent magnetic properties of Ni-Au alloy nanowires. <i>Materials Letters</i> , 2014, 116, 86-90.	2.6	1
42	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
43	Orientation-dependent indentation response of magnesium single crystals: Modeling and experiments. <i>Acta Materialia</i> , 2014, 81, 358-376.	7.9	48
44	High-temperature tensile and creep deformation of cross-weld specimens of weld joint between T92 martensitic and Super304H austenitic steels. <i>Materials Characterization</i> , 2014, 97, 161-168.	4.4	47
45	Unraveling the origin of strain-induced precipitation of M23C6 in the plastically deformed 347 Austenite stainless steel. <i>Materials Characterization</i> , 2014, 94, 7-13.	4.4	30
46	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
47	Origin of Size Dependency in Coherent-Twin-Propagation-Mediated Tensile Deformation of Noble Metal Nanowires. <i>Nano Letters</i> , 2013, 13, 5112-5116.	9.1	88
48	Crack nucleation during mechanical fatigue in thin metal films on flexible substrates. <i>Acta Materialia</i> , 2013, 61, 3473-3481.	7.9	76
49	Stretching-Induced Growth of PEDOT-Rich Cores: A New Mechanism for Strain-Dependent Resistivity Change in PEDOT:PSS Films. <i>Advanced Functional Materials</i> , 2013, 23, 4020-4027.	14.9	54
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	Face-Centered-Cubic Lithium Crystals Formed in Mesopores of Carbon Nanofiber Electrodes. <i>ACS Nano</i> , 2013, 7, 5801-5807.	14.6	24
52	Less strained and more efficient GaN light-emitting diodes with embedded silica hollow nanospheres. <i>Scientific Reports</i> , 2013, 3, 3201.	3.3	37
53	Measurement of Young's modulus of anisotropic materials using microcompression testing. <i>Journal of Materials Research</i> , 2012, 27, 2752-2759.	2.6	19
54	Fatigue-Free, Electrically Reliable Copper Electrode with Nanohole Array. <i>Small</i> , 2012, 8, 3300-3306.	10.0	48

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55	Highly durable and flexible dye-sensitized solar cells fabricated on plastic substrates: PVDF-nanofiber-reinforced TiO ₂ photoelectrodes. <i>Energy and Environmental Science</i> , 2012, 5, 8950.	30.8	87
56	Fabrication of Si core/C shell nanofibers and their electrochemical performances as a lithium-ion battery anode. <i>Journal of Power Sources</i> , 2012, 206, 267-273.	7.8	136
57	Exploring Nanomechanical Behavior of Silicon Nanowires: AFM Bending Versus Nanoindentation. <i>Advanced Functional Materials</i> , 2011, 21, 279-286.	14.9	79
58	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
59	Electromigration-Induced Stress Interaction between Via and Polygranular Cluster. <i>Materials Research Society Symposia Proceedings</i> , 2000, 612, 8111.	0.1	1