Dongchan D Jang

List of Publications by Year
in descending order

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60 papers	3,422 citations	257450 24 h-index	175258 52 g-index
62 all docs	62 docs citations	62 times ranked	3521 citing authors

#	Article	IF	Citations
1	Transition from a strong-yet-brittle to aÂstronger-and-ductile state by size reductionÂofÂmetallicÂglasses. Nature Materials, 2010, 9, 215-219.	27.5	606
2	Fabrication and deformation of three-dimensional hollow ceramic nanostructures. Nature Materials, 2013, 12, 893-898.	27.5	423
3	Deformation mechanisms in nanotwinned metal nanopillars. Nature Nanotechnology, 2012, 7, 594-601.	31.5	385
4	Tensile and compressive behavior of tungsten, molybdenum, tantalum and niobium at the nanoscale. Acta Materialia, 2010, 58, 2355-2363.	7.9	299
5	Size-induced weakening and grain boundary-assisted deformation in 60 nm grained Ni nanopillars. Scripta Materialia, 2011, 64, 77-80.	5.2	174
6	Nanolaminates Utilizing Sizeâ€Dependent Homogeneous Plasticity of Metallic Glasses. Advanced Functional Materials, 2011, 21, 4550-4554.	14.9	143
7	Effects of size on the strength and deformation mechanism in Zr-based metallic glasses. International Journal of Plasticity, 2011, 27, 858-867.	8.8	141
8	Nanometallic Glasses: Size Reduction Brings Ductility, Surface State Drives Its Extent. Nano Letters, 2013, 13, 4462-4468.	9.1	112
9	Insight into the deformation behavior of niobium single crystals under uniaxial compression and tension at the nanoscale. Scripta Materialia, 2009, 61, 300-303.	5.2	108
10	Flexible Hard Coating: Glassâ€Like Wear Resistant, Yet Plasticâ€Like Compliant, Transparent Protective Coating for Foldable Displays. Advanced Materials, 2017, 29, 1700205.	21.0	107
11	An atomically quantized hierarchy of shear transformation zones in a metallic glass. Journal of Applied Physics, 2011, 109, .	2.5	97
12	Influence of Homogeneous Interfaces on the Strength of 500 nm Diameter Cu Nanopillars. Nano Letters, 2011, 11, 1743-1746.	9.1	93
13	Crystallographic orientation and size dependence of tensionâ€“compression asymmetry in molybdenum nano-pillars. International Journal of Plasticity, 2012, 28, 46-52.	8.8	86
14	Grain-size dependence of plastic deformation in nanocrystalline Fe. Journal of Applied Physics, 2003, 93, 9282-9286.	2.5	80
15	Grain-boundary relaxation and its effect on plasticity in nanocrystalline Fe. Journal of Applied Physics, 2006, 99, 083504.	2.5	57
16	Multifunctional Polymer Nanocomposites Reinforced by 3D Continuous Ceramic Nanofillers. ACS Nano, 2018, 12, 9126-9133.	14.6	44
17	Emergence of New Mechanical Functionality in Materials via Size Reduction. Advanced Functional Materials, 2009, 19, 2880-2886.	14.9	39
18	Strength, stiffness, and microstructure of Cu(In,Ga)Se2 thin films deposited via sputtering and co-evaporation. Applied Physics Letters, 2014, 105, 011907.	3.3	35

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19	Catastrophic vs Gradual Collapse of Thin-Walled Nanocrystalline Ni Hollow Cylinders As Building Blocks of Microlattice Structures. Nano Letters, 2011, 11, 4118-4125.	9.1	34
20	Exploring Deformation Mechanisms in Nanostructured Materials. Jom, 2012, 64, 1241-1252.	1.9	33
21	Fatigue deformation of microsized metallic glasses. Scripta Materialia, 2013, 68, 773-776.	5.2	32
22	Plasticity of indium nanostructures as revealed by synchrotron X-ray microdiffraction. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 538, 89-97.	5.6	31
23	Grain Boundary Sliding in Aluminum Nanoâ€Biâ€Crystals Deformed at Room Temperature. Small, 2014, 10, 100-108.	10.0	30
24	Transparent Urethaneâ€“Siloxane Hybrid Materials for Flexible Cover Windows with Ceramic-Like Strength, yet Polymer-Like Modulus. ACS Applied Materials & Interfaces, 2018, 10, 43122-43130.	8.0	28
25	Emergence of New Densityâ€“Strength Scaling Law in 3D Hollow Ceramic Nanoarchitectures. Small, 2018, 14, e1802239.	10.0	21
26	Flexible Protective Film: Ultrahard, Yet Flexible Hybrid Nanocomposite Reinforced by 3D Inorganic Nanoshell Structures. Advanced Functional Materials, 2021, 31, 2010254.	14.9	19
27	Structural integrity of a high-burnup spent fuel rod under drop impact considering pellet-clad interfacial bonding influence. Nuclear Engineering and Design, 2018, 337, 324-340.	1.7	16
28	Dynamic evolution of nanosized NbC precipitates in austenite matrix during deformation and its contribution to strengthening. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 806, 140816.	5.6	13
29	Evaluation of thermal ageing activation energy of Î´-ferrite in an austenitic stainless steel weld using nanopillar compression test. Scripta Materialia, 2020, 186, 236-241.	5.2	12
30	Delocalized Plastic Flow in Proton-Irradiated Monolithic Metallic Glasses. Scientific Reports, 2016, 6, 23244.	3.3	11
31	Scalable Fabrication of High-Performance Thin-Shell Oxide Nanoarchitected Materials via Proximity-Field Nanopatterning. ACS Nano, 2021, 15, 3960-3970.	14.6	11
32	Probabilistic risk assessment of aircraft impact on a spent nuclear fuel dry storage. Nuclear Engineering and Design, 2017, 311, 104-119.	1.7	10
33	Crack-tip plasticity and intrinsic toughening in nano-sized brittle amorphous carbon. International Journal of Plasticity, 2020, 127, 102642.	8.8	9
34	Grain Scale Representative Volume Element Simulation to Investigate the Effect of Crystal Orientation on Void Growth in Single and Multi-Crystals. Metals, 2018, 8, 436.	2.3	8
35	â€œEffect of proton irradiation on Î´-ferrite in the thermally aged austenitic stainless steel weld: Precipitation of G-phase and additional hardeningâ€• Journal of Nuclear Materials, 2021, 544, 152656.	2.7	8
36	Micropillar compression study of the influence of size and internal boundary on the strength of HT9 tempered martensitic steel. Journal of Nuclear Materials, 2018, 503, 263-270.	2.7	7

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37	Parametric study on the structural response of a high burnup spent nuclear fuel rod under drop impact considering post-irradiated fuel conditions. Nuclear Engineering and Technology, 2020, 52, 1079-1092.	2.3	7
38	Stabilized Amorphous Calcium Carbonate as a Precursor of Microcoating on Calcite. Materials, 2020, 13, 3762.	2.9	7
39	Deformation mechanism of embedded hydride within the polycrystalline zirconium matrix. Journal of Nuclear Materials, 2022, 565, 153736.	2.7	7
40	Flexible Coatings: Flexible Hard Coating: Glassâ€Like Wear Resistant, Yet Plasticâ€Like Compliant, Transparent Protective Coating for Foldable Displays (Adv. Mater. 19/2017). Advanced Materials, 2017, 29, .	21.0	5
41	Development of a Probabilistic Safety Assessment Framework for an Interim Dry Storage Facility Subjected to an Aircraft Crash Using Best-Estimate Structural Analysis. Nuclear Engineering and Technology, 2017, 49, 411-425.	2.3	5
42	Friction Control by Deformation Mode in Nanopatterned Amorphous Carbon. Nano Letters, 2021, 21, 107-113.	9.1	5
43	Interfacial plasticity mediated by lath boundaries in reduced-activation ferritic/martensitic steels. Journal of Nuclear Materials, 2022, 559, 153439.	2.7	4
44	On Strength of Brittle Nanomaterials: Confinement Effect on Weibull Distributions. Frontiers in Materials, 2019, 6, .	2.4	3
45	MEMS-based in-situ tensile experiments designed to arrest catastrophic failure in brittle nanomaterials. Extreme Mechanics Letters, 2020, 41, 101071.	4.1	3
46	Plastic deformation of bi-crystalline Zr-ZrH2. Journal of Nuclear Materials, 2020, 533, 152111.	2.7	3
47	Dissolution of nanosized NbC precipitates in austenite matrix during elastic deformation - Deleterious effect of high number density. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 833, 142506.	5.6	3
48	Ductilization of Nanoporous Ceramics by Crystallinity Control. Nano Letters, 2019, 19, 8488-8494.	9.1	2
49	Multiomics characterization of dose- and time-dependent effects of ionizing radiation on human skin keratinocytes. Korean Journal of Chemical Engineering, 0, , 1.	2.7	2
50	Nano-Electro-Mechanical Switches Derived from Carbon-Based Nanomaterials. Nanoscience and Nanotechnology Letters, 2010, 2, 163-169.	0.4	1
51	Characterization of Plastic Deformation in Lath Martensitic Steel by Micro-pillar Compression Focused on Sub-block and Lath Boundaries. Jom, 2019, 71, 3536-3542.	1.9	1
52	Meso-scale modeling and simulation for reduced activation ferritic/martensitic steel. Fusion Engineering and Design, 2019, 146, 232-235.	1.9	1
53	Microstructural Evolution of Alâ€“Znâ€“Mgâ€“Cu Alloys in Accordance with Homogenization Time. Journal of Nanoscience and Nanotechnology, 2020, 20, 6890-6896.	0.9	1
54	The Contribution of Grain-Boundary Activity to Plasticity in Nanocrystalline Fe - The Effect of Grain-Boundary Relaxation. Journal of Metastable and Nanocrystalline Materials, 2005, 24-25, 555-558.	0.1	0

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55	Carbon-based nano-electro-mechanical systems. Proceedings of SPIE, 2010, , .	0.8	0
56	Nanomedicine. , 2012, , 1644-1644.		0
57	Nanostructures for Coloration (Organisms other than Animals). , 2012, , 1790-1803.		0
58	Nano-FET. , 2012, , 1543-1543.		0
59	Nanosized Nanocrystalline and Nanotwinned Metals. , 2016, , 2704-2712.		0
60	Evaluation of Thermal Ageing Activation Energy of Î”-Ferrite in an Austenitic Stainless Steel Weld Using Nanopillar Compression Test. SSRN Electronic Journal, 0, , .	0.4	0