Xiaoding Wei

List of Publications by Year
in descending order

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61 papers	20,835 citations	196777 29 h-index	145109 60 g-index
64 all docs	64 docs citations	64 times ranked	30277 citing authors

#	Article	IF	Citations
1	Nanograinâ€“glass dual-phasic, elasto-flexible, fatigue-tolerant, and heat-insulating ceramic sponges at large scales. Materials Today, 2022, 54, 72-82.	8.3	62
2	Enhancing strength and ductility via crystalline-amorphous nanoarchitectures in TiZr-based alloys. Science Advances, 2022, 8, eabm2884.	4.7	22
3	Finite deformation continuum model for mechanically induced phase transition in transition metal dichalcogenide monolayers. Journal of the Mechanics and Physics of Solids, 2022, 166, 104955.	2.3	1
4	Thermal-Switchable, Trifunctional Ceramicâ€“Hydrogel Nanocomposites Enable Full-Lifecycle Security in Practical Battery Systems. ACS Nano, 2022, 16, 10729-10741.	7.3	30
5	A new continuum model for viscoplasticity in metallic glasses based on thermodynamics and its application to creep tests. Journal of the Mechanics and Physics of Solids, 2021, 146, 104216.	2.3	15
6	Zone-Folded Longitudinal Acoustic Phonons Driving Self-Trapped State Emission in Colloidal CdSe Nanoplatelet Superlattices. Nano Letters, 2021, 21, 4137-4144.	4.5	22
7	A universal fracture analysis framework for staggered composites composed of tablets with different wavy topologies. Journal of the Mechanics and Physics of Solids, 2021, 151, 104387.	2.3	9
8	Enhancing the impact performance of reinforced composites through fiber hybridizationâ€”A hybrid dynamic shear-lag model. Extreme Mechanics Letters, 2021, 47, 101352.	2.0	5
9	Correlations between the hierarchical spatial heterogeneity and the mechanical properties of metallic glasses. International Journal of Mechanical Sciences, 2021, 204, 106570.	3.6	8
10	A multiscale model for the prediction of ballistic performance of fiber-reinforced composites. International Journal of Impact Engineering, 2021, 154, 103889.	2.4	3
11	Atomically Thin Bilayer Janus Membranes for Cryo-electron Microscopy. ACS Nano, 2021, 15, 16562-16571.	7.3	5
12	Thermal-responsive, super-strong, ultrathin firewalls for quenching thermal runaway in high-energy battery modules. Energy Storage Materials, 2021, 40, 329-336.	9.5	85
13	Modeling Intrinsic Wrinkles in Graphene and Their Effects on the Mechanical Properties. Jom, 2020, 72, 3987-3992.	0.9	1
14	Design the wave attenuation property of nacreous composites. Extreme Mechanics Letters, 2020, 40, 100875.	2.0	8
15	Growth of Ultraflat Graphene with Greatly Enhanced Mechanical Properties. Nano Letters, 2020, 20, 6798-6806.	4.5	19
16	Highly compressible and anisotropic lamellar ceramic sponges with superior thermal insulation and acoustic absorption performances. Nature Communications, 2020, 11, 3732.	5.8	172
17	A multiscale analytical framework for mode I crack in staggered composites. Journal of the Mechanics and Physics of Solids, 2020, 145, 104157.	2.3	10
18	Machine-washable and breathable pressure sensors based on triboelectric nanogenerators enabled by textile technologies. Nano Energy, 2020, 70, 104528.	8.2	151

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19	Robust ultraclean atomically thin membranes for atomic-resolution electron microscopy. Nature Communications, 2020, 11, 541.	5.8	37
20	A general property-structure relationship from crack stability analysis on hybrid staggered composites with elasto-plastic matrices. Composite Structures, 2020, 240, 112071.	3.1	9
21	Achieving outstanding damping performance through bio-inspired sutural tessellations. Journal of the Mechanics and Physics of Solids, 2020, 142, 104010.	2.3	18
22	Atomically Thin Polymer Layer Enhances Toughness of Graphene Oxide Monolayers. Matter, 2019, 1, 369-388.	5.0	32
23	A new three-dimensional progressive damage model for fiber-reinforced polymer laminates and its applications to large open-hole panels. Composites Science and Technology, 2019, 182, 107757.	3.8	17
24	Unraveling crack stability and strain localization in staggered composites by fracture analysis on the shear-lag model. Composites Science and Technology, 2018, 156, 262-268.	3.8	18
25	Dynamic shear-lag model for understanding the role of matrix in energy dissipation in fiber-reinforced composites. Acta Biomaterialia, 2018, 74, 270-279.	4.1	28
26	Kirigamiâ€Inspired Deformable 3D Structures Conformable to Curved Biological Surface. Advanced Science, 2018, 5, 1801070.	5.6	51
27	Optimizing mechanical properties of bio-inspired composites through functionally graded matrix and microstructure design. Composite Structures, 2018, 206, 621-627.	3.1	7
28	Size effects in layered composites â€" Defect tolerance and strength optimization. Composites Science and Technology, 2018, 165, 154-160.	3.8	2
29	Optimization of Damping Properties of Staggered Composites Through Microstructure Design. Journal of Applied Mechanics, Transactions ASME, 2018, 85, .	1.1	14
30	Ultrasensitive triboelectric nanogenerator for weak ambient energy with rational unipolar stacking structure and low-loss power management. Nano Energy, 2017, 41, 351-358.	8.2	19
31	Engineering the Mechanical Properties of Monolayer Graphene Oxide at the Atomic Level. Journal of Physical Chemistry Letters, 2016, 7, 2702-2707.	2.1	60
32	Recoverable Slippage Mechanism in Multilayer Graphene Leads to Repeatable Energy Dissipation. ACS Nano, 2016, 10, 1820-1828.	7.3	112
33	Plasticity and ductility in graphene oxide through a mechanochemically induced damage tolerance mechanism. Nature Communications, 2015, 6, 8029.	5.8	95
34	Statistical shear lag model â€" Unraveling the size effect in hierarchical composites. Acta Biomaterialia, 2015, 18, 206-212.	4.1	39
35	Molecular-Level Engineering of Adhesion in Carbon Nanomaterial Interfaces. Nano Letters, 2015, 15, 4504-4516.	4.5	25
36	A new Monte Carlo model for predicting the mechanical properties of fiber yarns. Journal of the Mechanics and Physics of Solids, 2015, 84, 325-335.	2.3	22

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37	In Situ Scanning Electron Microscope Peeling To Quantify Surface Energy between Multiwalled Carbon Nanotubes and Graphene. ACS Nano, 2014, 8, 124-138.	7.3	37
38	Key Factors Limiting Carbon Nanotube Yarn Strength: Exploring Processing-Structure-Property Relationships. ACS Nano, 2014, 8, 11454-11466.	7.3	68
39	Experimental and Theoretical Studies of Fiber-Reinforced Composite Panels Subjected to Underwater Blast Loading. , 2014, , 91-122.		1
40	Three-dimensional numerical modeling of composite panels subjected to underwater blast. Journal of the Mechanics and Physics of Solids, 2013, 61, 1319-1336.	2.3	78
41	A new rate-dependent unidirectional composite model â€“ Application to panels subjected to underwater blast. Journal of the Mechanics and Physics of Solids, 2013, 61, 1305-1318.	2.3	47
42	Nonlinear elastic behavior of two-dimensional molybdenum disulfide. Physical Review B, 2013, 87, .	1.1	400
43	Atomistic Investigation of Load Transfer Between DWNT Bundles â€œCrosslinkedâ€•by PMMA Oligomers. Advanced Functional Materials, 2013, 23, 1883-1892.	7.8	48
44	Publisher's Note: Nonlinear elastic behavior of two-dimensional molybdenum disulfide [Phys. Rev. B87, 035423 (2013)]. Physical Review B, 2013, 87, .	1.1	22
45	Carbon Nanotubes: Atomistic Investigation of Load Transfer Between DWNT Bundles â€œCrosslinkedâ€•by PMMA Oligomers (Adv. Funct. Mater. 15/2013). Advanced Functional Materials, 2013, 23, 1976-1976.	7.8	0
46	Experimental validation of multiscale modeling of indentation of suspended circular graphene membranes. International Journal of Solids and Structures, 2012, 49, 3201-3209.	1.3	46
47	Optimal Length Scales Emerging from Shear Load Transfer in Natural Materials: Application to Carbon-Based Nanocomposite Design. ACS Nano, 2012, 6, 2333-2344.	7.3	186
48	Carbonâ€Carbon Contacts for Robust Nanoelectromechanical Switches. Advanced Materials, 2012, 24, 2463-2468.	11.1	35
49	Design and identification of high performance steel alloys for structures subjected to underwater impulsive loading. International Journal of Solids and Structures, 2012, 49, 1573-1587.	1.3	31
50	Substrate stiffness regulates extracellular matrix deposition by alveolar epithelial cells. Research and Reports in Biology, 2011, 2011, 1.	0.2	38
51	Robust Carbonâ€Nanotubeâ€Based Nanoâ€electromechanical Devices: Understanding and Eliminating Prevalent Failure Modes Using Alternative Electrode Materials. Small, 2011, 7, 79-86.	5.2	35
52	Residual plastic strain recovery driven by grain boundary diffusion in nanocrystalline thin films. Acta Materialia, 2011, 59, 3937-3945.	3.8	25
53	Failure mechanisms in composite panels subjected to underwater impulsive loads. Journal of the Mechanics and Physics of Solids, 2011, 59, 1623-1646.	2.3	84
54	Elastic and frictional properties of graphene. Physica Status Solidi (B): Basic Research, 2009, 246, 2562-2567.	0.7	333

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55	Nonlinear elastic behavior of graphene:<i>Ab initio</i>calculations to continuum description. Physical Review B, 2009, 80, .	1.1	364
56	Measurement of the Elastic Properties and Intrinsic Strength of Monolayer Graphene. Science, 2008, 321, 385-388.	6.0	17,513
57	Plastic deformation in nanoscale gold single crystals and open-celled nanoporous gold. Modelling and Simulation in Materials Science and Engineering, 2007, 15, S181-S192.	0.8	34
58	Microfabrication and mechanical properties of nanoporous gold at the nanoscale. Scripta Materialia, 2007, 56, 437-440.	2.6	123
59	Plane-strain bulge test for nanocrystalline copper thin films. Scripta Materialia, 2007, 57, 541-544.	2.6	31
60	Deformation and fracture behavior of electrocodeposited alumina nanoparticle/copper composite films. Journal of Materials Science, 2007, 42, 5256-5263.	1.7	11
61	Observation of plastic deformation in freestanding single crystal Au nanowires. Applied Physics Letters, 2006, 89, 111916.	1.5	5