Xiaoding Wei

List of Publications by Year in Descending Order

59 papers	17,169 citations	25 h-index	64 g-index
64 ext. papers	19,118 ext. citations	9.7 avg, IF	6.76 L-index

#	Paper	IF	Citations
59	Enhancing strength and ductility via crystalline-amorphous nanoarchitectures in TiZr-based alloys.. *Science Advances*, **2022**, 8, eabm2884	14.3	2
58	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	5	
57	Zone-Folded Longitudinal Acoustic Phonons Driving Self-Trapped State Emission in Colloidal CdSe Nanoplatelet Superlattices. *Nano Letters*, **2021**, 21, 4137-4144	11.5	5
56	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	5	1
55	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	5	7
54	Enhancing the impact performance of reinforced composites through fiber hybridization: A hybrid dynamic shear-lag model. *Extreme Mechanics Letters*, **2021**, 47, 101352	3.9	1
53	Correlations between the hierarchical spatial heterogeneity and the mechanical properties of metallic glasses. *International Journal of Mechanical Sciences*, **2021**, 204, 106570	5.5	1
52	A multiscale model for the prediction of ballistic performance of fiber-reinforced composites. *International Journal of Impact Engineering*, **2021**, 154, 103889	4	1
51	Atomically Thin Bilayer Janus Membranes for Cryo-electron Microscopy. *ACS Nano*, **2021**, 15, 16562-16571	16.7	2
50	Thermal-responsive, super-strong, ultrathin firewalls for quenching thermal runaway in high-energy battery modules. *Energy Storage Materials*, **2021**, 40, 329-336	19.4	13
49	Machine-washable and breathable pressure sensors based on triboelectric nanogenerators enabled by textile technologies. *Nano Energy*, **2020**, 70, 104528	17.1	84
48	Robust ultraclean atomically thin membranes for atomic-resolution electron microscopy. *Nature Communications*, **2020**, 11, 541	17.4	21
47	Achieving outstanding damping performance through bio-inspired sutural tessellations. *Journal of the Mechanics and Physics of Solids*, **2020**, 142, 104010	5	4
46	Modeling Intrinsic Wrinkles in Graphene and Their Effects on the Mechanical Properties. *Jom*, **2020**, 72, 3987-3992	2.1	1
45	Design the wave attenuation property of nacreous composites. *Extreme Mechanics Letters*, **2020**, 40, 100875	3.9	3
44	Growth of Ultraflat Graphene with Greatly Enhanced Mechanical Properties. *Nano Letters*, **2020**, 20, 6798-6806	11.5	65
43	Highly compressible and anisotropic lamellar ceramic sponges with superior thermal insulation and acoustic absorption performances. *Nature Communications*, **2020**, 11, 3732	17.4	64

42	A multiscale analytical framework for mode I crack in staggered composites. *Journal of the Mechanics and Physics of Solids*, **2020**, 145, 104157	5	3
41	A general property-structure relationship from crack stability analysis on hybrid staggered composites with elasto-plastic matrices. *Composite Structures*, **2020**, 240, 112071	5.3	2
40	Atomically Thin Polymer Layer Enhances Toughness of Graphene Oxide Monolayers. *Matter*, **2019**, 1, 369-388	12.7	16
39	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	8.6	9
38	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	8.6	10
37	Dynamic shear-lag model for understanding the role of matrix in energy dissipation in fiber-reinforced composites. *Acta Biomaterialia*, **2018**, 74, 270-279	10.8	13
36	Optimization of Damping Properties of Staggered Composites Through Microstructure Design. *Journal of Applied Mechanics, Transactions ASME*, **2018**, 85,	2.7	5
35	Kirigami-Inspired Deformable 3D Structures Conformable to Curved Biological Surface. *Advanced Science*, **2018**, 5, 1801070	13.6	33
34	Optimizing mechanical properties of bio-inspired composites through functionally graded matrix and microstructure design. *Composite Structures*, **2018**, 206, 621-627	5.3	6
33	Size effects in layered composites Defect tolerance and strength optimization. *Composites Science and Technology*, **2018**, 165, 154-160	8.6	1
32	Ultrasensitive triboelectric nanogenerator for weak ambient energy with rational unipolar stacking structure and low-loss power management. *Nano Energy*, **2017**, 41, 351-358	17.1	16
31	Engineering the Mechanical Properties of Monolayer Graphene Oxide at the Atomic Level. *Journal of Physical Chemistry Letters*, **2016**, 7, 2702-7	6.4	50
30	Recoverable Slippage Mechanism in Multilayer Graphene Leads to Repeatable Energy Dissipation. *ACS Nano*, **2016**, 10, 1820-8	16.7	89
29	Molecular-Level Engineering of Adhesion in Carbon Nanomaterial Interfaces. *Nano Letters*, **2015**, 15, 4504-16	11.5	21
28	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	5	18
27	Plasticity and ductility in graphene oxide through a mechanochemically induced damage tolerance mechanism. *Nature Communications*, **2015**, 6, 8029	17.4	72
26	Statistical shear lag model - unraveling the size effect in hierarchical composites. *Acta Biomaterialia* , **2015**, 18, 206-12	10.8	28
25	In situ scanning electron microscope peeling to quantify surface energy between multiwalled carbon nanotubes and graphene. *ACS Nano*, **2014**, 8, 124-38	16.7	31

24	Key factors limiting carbon nanotube yarn strength: exploring processing-structure-property relationships. *ACS Nano*, **2014**, 8, 11454-66	16.7	56
23	Experimental and Theoretical Studies of Fiber-Reinforced Composite Panels Subjected to Underwater Blast Loading **2014**, 91-122		1
22	Three-dimensional numerical modeling of composite panels subjected to underwater blast. *Journal of the Mechanics and Physics of Solids*, **2013**, 61, 1319-1336	5	64
21	A new rate-dependent unidirectional composite model Application to panels subjected to underwater blast. *Journal of the Mechanics and Physics of Solids*, **2013**, 61, 1305-1318	5	40
20	Nonlinear elastic behavior of two-dimensional molybdenum disulfide. *Physical Review B*, **2013**, 87,	3.3	312
19	Atomistic Investigation of Load Transfer Between DWNT Bundles Crosslinked by PMMA Oligomers. *Advanced Functional Materials*, **2013**, 23, 1883-1892	15.6	40
18	Publisher's Note: Nonlinear elastic behavior of two-dimensional molybdenum disulfide [Phys. Rev. B 87, 035423 (2013)]. *Physical Review B*, **2013**, 87,	3.3	21
17	Carbon Nanotubes: Atomistic Investigation of Load Transfer Between DWNT Bundles Crosslinked by PMMA Oligomers (Adv. Funct. Mater. 15/2013). *Advanced Functional Materials*, **2013**, 23, 1976-1976	15.6	
16	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	3.1	30
15	Experimental validation of multiscale modeling of indentation of suspended circular graphene membranes. *International Journal of Solids and Structures*, **2012**, 49, 3201-3209	3.1	41
14	Optimal length scales emerging from shear load transfer in natural materials: application to carbon-based nanocomposite design. *ACS Nano*, **2012**, 6, 2333-44	16.7	149
13	Carbon-carbon contacts for robust nanoelectromechanical switches. *Advanced Materials*, **2012**, 24, 2463-8	14	33
12	Substrate stiffness regulates extracellular matrix deposition by alveolar epithelial cells. *Research and Reports in Biology*, **2011**, 2011, 1-12		30
11	Robust carbon-nanotube-based nano-electromechanical devices: understanding and eliminating prevalent failure modes using alternative electrode materials. *Small*, **2011**, 7, 79-86	11	33
10	Residual plastic strain recovery driven by grain boundary diffusion in nanocrystalline thin films. *Acta Materialia*, **2011**, 59, 3937-3945	8.4	20
9	Failure mechanisms in composite panels subjected to underwater impulsive loads. *Journal of the Mechanics and Physics of Solids*, **2011**, 59, 1623-1646	5	70
8	Elastic and frictional properties of graphene. *Physica Status Solidi (B): Basic Research*, **2009**, 246, 2562-2567	1.5	285
7	Nonlinear elastic behavior of graphene: Ab initio calculations to continuum description. *Physical Review B*, **2009**, 80,	3.3	303

6	Measurement of the elastic properties and intrinsic strength of monolayer graphene. *Science*, **2008**, 321, 385-8	33.3	14811
5	Plastic deformation in nanoscale gold single crystals and open-celled nanoporous gold. *Modelling and Simulation in Materials Science and Engineering*, **2007**, 15, S181-S192	2	31
4	Microfabrication and mechanical properties of nanoporous gold at the nanoscale. *Scripta Materialia* , **2007**, 56, 437-440	5.6	111
3	Plane-strain bulge test for nanocrystalline copper thin films. *Scripta Materialia*, **2007**, 57, 541-544	5.6	25
2	Deformation and fracture behavior of electrocodeposited alumina nanoparticle/copper composite films. *Journal of Materials Science*, **2007**, 42, 5256-5263	4.3	11
1	Observation of plastic deformation in freestanding single crystal Au nanowires. *Applied Physics Letters*, **2006**, 89, 111916	3.4	4