

Yong-Wei Zhang

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496
papers

27,298
citations

78
h-index

150
g-index

521
ext. papers

31,006
ext. citations

6.4
avg, IF

7.53
L-index

#	Paper	IF	Citations
496	Epidermal electronics. <i>Science</i> , 2011 , 333, 838-43	33.3	3216
495	The role of surface oxygen in the growth of large single-crystal graphene on copper. <i>Science</i> , 2013 , 342, 720-3	33.3	868
494	Quasiparticle band structures and optical properties of strained monolayer MoS ₂ and WS ₂ . <i>Physical Review B</i> , 2013 , 87,	3.3	662
493	Layer-dependent band alignment and work function of few-layer phosphorene. <i>Scientific Reports</i> , 2014 , 4, 6677	4.9	594
492	A review on mechanics and mechanical properties of 2D materials Graphene and beyond. <i>Extreme Mechanics Letters</i> , 2017 , 13, 42-77	3.9	581
491	Polarity-reversed robust carrier mobility in monolayer MoS ₂ nanoribbons. <i>Journal of the American Chemical Society</i> , 2014 , 136, 6269-75	16.4	572
490	Structures, mechanical properties and applications of silk fibroin materials. <i>Progress in Polymer Science</i> , 2015 , 46, 86-110	29.6	558
489	Materials and noncoplanar mesh designs for integrated circuits with linear elastic responses to extreme mechanical deformations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008 , 105, 18675-80	11.5	541
488	Extraordinary photoluminescence and strong temperature/angle-dependent Raman responses in few-layer phosphorene. <i>ACS Nano</i> , 2014 , 8, 9590-6	16.7	529
487	Ultrafast and directional diffusion of lithium in phosphorene for high-performance lithium-ion battery. <i>Nano Letters</i> , 2015 , 15, 1691-7	11.5	512
486	Towards intrinsic charge transport in monolayer molybdenum disulfide by defect and interface engineering. <i>Nature Communications</i> , 2014 , 5, 5290	17.4	448
485	A molecular dynamics study of the mechanical properties of hydrogen functionalized graphene. <i>Carbon</i> , 2010 , 48, 898-904	10.4	390
484	Lattice vibrational modes and phonon thermal conductivity of monolayer MoS ₂ . <i>Physical Review B</i> , 2014 , 89,	3.3	314
483	Protein Induces Layer-by-Layer Exfoliation of Transition Metal Dichalcogenides. <i>Journal of the American Chemical Society</i> , 2015 , 137, 6152-5	16.4	303
482	Edge-stress-induced warping of graphene sheets and nanoribbons. <i>Physical Review Letters</i> , 2008 , 101, 245501	7.4	298
481	Defect Engineering of Oxygen-Deficient Manganese Oxide to Achieve High-Performing Aqueous Zinc Ion Battery. <i>Advanced Energy Materials</i> , 2019 , 9, 1803815	21.8	285
480	Energetics, Charge Transfer, and Magnetism of Small Molecules Physisorbed on Phosphorene. <i>Journal of Physical Chemistry C</i> , 2015 , 119, 3102-3110	3.8	283

479	Electronic Properties of Phosphorene/Graphene and Phosphorene/Hexagonal Boron Nitride Heterostructures. <i>Journal of Physical Chemistry C</i> , 2015 , 119, 13929-13936	3.8	244
478	Edge-dependent structural, electronic and magnetic properties of MoS2 nanoribbons. <i>Journal of Materials Chemistry</i> , 2012 , 22, 7280		224
477	Strong Thermal Transport Anisotropy and Strain Modulation in Single-Layer Phosphorene. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 25272-25277	3.8	219
476	Tuning the Electronic and Magnetic Properties of MoS2 Nanoribbons by Strain Engineering. <i>Journal of Physical Chemistry C</i> , 2012 , 116, 11752-11757	3.8	190
475	Analysis of nanoindentation creep for polymeric materials. <i>Journal of Applied Physics</i> , 2004 , 95, 3655-3665		180
474	Analyzing the Carrier Mobility in Transition-Metal Dichalcogenide MoS2 Field-Effect Transistors. <i>Advanced Functional Materials</i> , 2017 , 27, 1604093	15.6	178
473	High-Performance Monolayer WS2 Field-Effect Transistors on High-Dielectrics. <i>Advanced Materials</i> , 2015 , 27, 5230-4	24	177
472	Preparation, morphology and thermal/mechanical properties of epoxy/nanoclay composite. <i>Composites Part A: Applied Science and Manufacturing</i> , 2006 , 37, 1890-1896	8.4	175
471	Surface-Charge-Mediated Formation of H-TiO @Ni(OH) Heterostructures for High-Performance Supercapacitors. <i>Advanced Materials</i> , 2017 , 29, 1604164	24	169
470	Giant Phononic Anisotropy and Unusual Anharmonicity of Phosphorene: Interlayer Coupling and Strain Engineering. <i>Advanced Functional Materials</i> , 2015 , 25, 2230-2236	15.6	169
469	Realization of Room-Temperature Phonon-Limited Carrier Transport in Monolayer MoS2 by Dielectric and Carrier Screening. <i>Advanced Materials</i> , 2016 , 28, 547-52	24	161
468	On optimal hierarchy of load-bearing biological materials. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2011 , 278, 519-25	4.4	161
467	DislocationTwin interaction mechanisms for ultrahigh strength and ductility in nanotwinned metals. <i>Acta Materialia</i> , 2009 , 57, 4508-4518	8.4	160
466	A theoretical analysis of the thermal conductivity of hydrogenated graphene. <i>Carbon</i> , 2011 , 49, 4752-4759	10.4	152
465	Monodisperse silica nanoparticles encapsulating upconversion fluorescent and superparamagnetic nanocrystals. <i>Chemical Communications</i> , 2008 , 694-6	5.8	152
464	Phonon thermal conductivity of monolayer MoS2 sheet and nanoribbons. <i>Applied Physics Letters</i> , 2013 , 103, 133113	3.4	145
463	Atomic scale fluctuations govern brittle fracture and cavitation behavior in metallic glasses. <i>Physical Review Letters</i> , 2011 , 107, 215501	7.4	144
462	Size-dependent deformation of nanocrystalline Pt nanopillars. <i>Nano Letters</i> , 2012 , 12, 6385-92	11.5	137

461	Effects of H-, N-, and (H, N)-Doping on the Photocatalytic Activity of TiO ₂ . <i>Journal of Physical Chemistry C</i> , 2011 , 115, 12224-12231	3.8	132
460	Anisotropic growth of titania onto various gold nanostructures: synthesis, theoretical understanding, and optimization for catalysis. <i>Angewandte Chemie - International Edition</i> , 2011 , 50, 10140-10143	16.4	131
459	Optimized structural designs for stretchable silicon integrated circuits. <i>Small</i> , 2009 , 5, 2841-7	11	131
458	Thermal conductivities of single- and multi-layer phosphorene: a molecular dynamics study. <i>Nanoscale</i> , 2016 , 8, 483-91	7.7	129
457	Thermoelectric properties of two-dimensional transition metal dichalcogenides. <i>Journal of Materials Chemistry C</i> , 2017 , 5, 7684-7698	7.1	125
456	Artificial Synapses Based on Multiterminal Memtransistors for Neuromorphic Application. <i>Advanced Functional Materials</i> , 2019 , 29, 1901106	15.6	121
455	Al-Doped Black Phosphorus p-n Homojunction Diode for High Performance Photovoltaic. <i>Advanced Functional Materials</i> , 2017 , 27, 1604638	15.6	120
454	Alignment controlled growth of single-walled carbon nanotubes on quartz substrates. <i>Nano Letters</i> , 2009 , 9, 4311-9	11.5	116
453	Exciton-dominated Dielectric Function of Atomically Thin MoS ₂ Films. <i>Scientific Reports</i> , 2015 , 5, 16996	4.9	114
452	Recent Advances in the Study of Phosphorene and its Nanostructures. <i>Critical Reviews in Solid State and Materials Sciences</i> , 2017 , 42, 1-82	10.1	113
451	Strong ferromagnetism in hydrogenated monolayer MoS ₂ tuned by strain. <i>Physical Review B</i> , 2013 , 88,	3.3	113
450	Manipulating the Thermal Conductivity of Monolayer MoS ₂ via Lattice Defect and Strain Engineering. <i>Journal of Physical Chemistry C</i> , 2015 , 119, 16358-16365	3.8	112
449	Highly Itinerant Atomic Vacancies in Phosphorene. <i>Journal of the American Chemical Society</i> , 2016 , 138, 10199-206	16.4	112
448	Engineering Substrate Interactions for High Luminescence Efficiency of Transition-Metal Dichalcogenide Monolayers. <i>Advanced Functional Materials</i> , 2016 , 26, 4733-4739	15.6	112
447	Substitutionally doped phosphorene: electronic properties and gas sensing. <i>Nanotechnology</i> , 2016 , 27, 065708	3.4	111
446	Electronic Properties of Edge-Hydrogenated Phosphorene Nanoribbons: A First-Principles Study. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 22368-22372	3.8	108
445	Nanoscale Transition Metal Dichalcogenides: Structures, Properties, and Applications. <i>Critical Reviews in Solid State and Materials Sciences</i> , 2014 , 39, 319-367	10.1	106
444	Controlling of residual stress in additive manufacturing of Ti6Al4V by finite element modeling. <i>Additive Manufacturing</i> , 2016 , 12, 231-239	6.1	106

443	Strain effects on thermoelectric properties of two-dimensional materials. <i>Mechanics of Materials</i> , 2015 , 91, 382-398	3.3	103
442	On the strength of E-sheet crystallites of Bombyx mori silk fibroin. <i>Journal of the Royal Society Interface</i> , 2014 , 11, 20140305	4.1	103
441	Tuning the thermal conductivity of silicene with tensile strain and isotopic doping: A molecular dynamics study. <i>Journal of Applied Physics</i> , 2013 , 114, 033526	2.5	102
440	Edge elastic properties of defect-free single-layer graphene sheets. <i>Applied Physics Letters</i> , 2009 , 94, 101904	3.4	102
439	Effects of grain size, temperature and strain rate on the mechanical properties of polycrystalline graphene A molecular dynamics study. <i>Carbon</i> , 2015 , 85, 135-146	10.4	96
438	Few-Layer Black Phosphorus Carbide Field-Effect Transistor via Carbon Doping. <i>Advanced Materials</i> , 2017 , 29, 1700503	24	95
437	Topological Defects at the Graphene/h-BN interface Abnormally Enhance Its Thermal Conductance. <i>Nano Letters</i> , 2016 , 16, 4954-9	11.5	95
436	Ab Initio Study on a Novel Photocatalyst: Functionalized Graphitic Carbon Nitride Nanotube. <i>ACS Catalysis</i> , 2011 , 1, 99-104	13.1	94
435	Effects of temperature and strain rate on the mechanical properties of silicene. <i>Journal of Applied Physics</i> , 2014 , 115, 023519	2.5	93
434	A transition from localized shear banding to homogeneous superplastic flow in nanoglass. <i>Applied Physics Letters</i> , 2013 , 103, 211905	3.4	93
433	Gapless MoS2 allotrope possessing both massless Dirac and heavy fermions. <i>Physical Review B</i> , 2014 , 89,	3.3	92
432	Hydrogen adsorption on and diffusion through MoS2 monolayer: First-principles study. <i>International Journal of Hydrogen Energy</i> , 2012 , 37, 14323-14328	6.7	92
431	Mechanical properties of methyl functionalized graphene: a molecular dynamics study. <i>Nanotechnology</i> , 2010 , 21, 115709	3.4	92
430	Nanowire failure: long = brittle and short = ductile. <i>Nano Letters</i> , 2012 , 12, 910-4	11.5	91
429	Mechanical properties and fracture behavior of single-layer phosphorene at finite temperatures. <i>Journal Physics D: Applied Physics</i> , 2015 , 48, 395303	3	86
428	Stretchable semiconductor technologies with high areal coverages and strain-limiting behavior: demonstration in high-efficiency dual-junction GaInP/GaAs photovoltaics. <i>Small</i> , 2012 , 8, 1851-6	11	86
427	An experimental and theoretical investigation of the anisotropic branching in gold nanocrosses. <i>Nanoscale</i> , 2016 , 8, 543-52	7.7	84
426	Oscillatory behavior of C60-nanotube oscillators: A molecular-dynamics study. <i>Journal of Applied Physics</i> , 2005 , 97, 094313	2.5	84

425	Study of Materials Deformation in Nanometric Cutting by Large-scale Molecular Dynamics Simulations. <i>Nanoscale Research Letters</i> , 2009 , 4, 444-451	5	82
424	Metal-organic framework-derived hierarchical MoS ₂ /CoS ₂ nanotube arrays as pH-universal electrocatalysts for efficient hydrogen evolution. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 13339-13346 ¹³		81
423	An experimental and simulation study on build thickness dependent microstructure for electron beam melted Ti-6Al-4V. <i>Journal of Alloys and Compounds</i> , 2015 , 646, 303-309	5.7	81
422	First-principles study on hydrogen storage by graphitic carbon nitride nanotubes. <i>International Journal of Hydrogen Energy</i> , 2012 , 37, 4170-4178	6.7	80
421	Phase field simulation of powder bed-based additive manufacturing. <i>Acta Materialia</i> , 2018 , 144, 801-809 ^{8.4}		79
420	The role of H ₂ O and O ₂ molecules and phosphorus vacancies in the structure instability of phosphorene. <i>2D Materials</i> , 2017 , 4, 015010	5.9	78
419	Modeling and simulation of buckling of polymeric membrane thin film gel. <i>Computational Materials Science</i> , 2010 , 49, S60-S64	3.2	78
418	Interfacial thermal conductance in graphene/MoS ₂ heterostructures. <i>Carbon</i> , 2016 , 96, 888-896	10.4	77
417	Spontaneous curling of graphene sheets with reconstructed edges. <i>ACS Nano</i> , 2010 , 4, 4840-4	16.7	77
416	Modulating Carrier Density and Transport Properties of MoS ₂ by Organic Molecular Doping and Defect Engineering. <i>Chemistry of Materials</i> , 2016 , 28, 8611-8621	9.6	76
415	Effect of particle size on erosion characteristics. <i>Wear</i> , 2016 , 348-349, 126-137	3.5	75
414	Slurry erosion characteristics and erosion mechanisms of stainless steel. <i>Tribology International</i> , 2014 , 79, 1-7	4.9	73
413	Carbon isotope doping induced interfacial thermal resistance and thermal rectification in graphene. <i>Applied Physics Letters</i> , 2012 , 100, 101901	3.4	73
412	Strain-tunable electronic and transport properties of MoS ₂ nanotubes. <i>Nano Research</i> , 2014 , 7, 518-527 ¹⁰		72
411	A Fully Printed Flexible MoS ₂ Memristive Artificial Synapse with Femtojoule Switching Energy. <i>Advanced Electronic Materials</i> , 2019 , 5, 1900740	6.4	71
410	ANALYTICAL SOLUTIONS OF POLYMERIC GEL STRUCTURES UNDER BUCKLING AND WRINKLE. <i>International Journal of Applied Mechanics</i> , 2011 , 03, 235-257	2.4	71
409	Numerical simulations of island formation in a coherent strained epitaxial thin film system. <i>Journal of the Mechanics and Physics of Solids</i> , 1999 , 47, 2273-2297	5	71
408	Deformation mechanisms, length scales and optimizing the mechanical properties of nanotwinned metals. <i>Acta Materialia</i> , 2011 , 59, 6890-6900	8.4	70

407	Mechanisms of failure in nanoscale metallic glass. <i>Nano Letters</i> , 2014 , 14, 5858-64	11.5	68
406	Direct n- to p-Type Channel Conversion in Monolayer/Few-Layer WS Field-Effect Transistors by Atomic Nitrogen Treatment. <i>ACS Nano</i> , 2018 , 12, 2506-2513	16.7	67
405	Inverse pseudo Hall-Petch relation in polycrystalline graphene. <i>Scientific Reports</i> , 2014 , 4, 5991	4.9	67
404	A novel singular ES-FEM method for simulating singular stress fields near the crack tips for linear fracture problems. <i>Engineering Fracture Mechanics</i> , 2011 , 78, 863-876	4.2	66
403	Charge Transfer and Functionalization of Monolayer InSe by Physisorption of Small Molecules for Gas Sensing. <i>Journal of Physical Chemistry C</i> , 2017 , 121, 10182-10193	3.8	65
402	Size Effect Suppresses Brittle Failure in Hollow Cu ₆₀ Zr ₄₀ Metallic Glass Nanolattices Deformed at Cryogenic Temperatures. <i>Nano Letters</i> , 2015 , 15, 5673-81	11.5	65
401	Effect of impact angle and testing time on erosion of stainless steel at higher velocities. <i>Wear</i> , 2014 , 321, 87-93	3.5	65
400	Convenient purification of gold clusters by co-precipitation for improved sensing of hydrogen peroxide, mercury ions and pesticides. <i>Chemical Communications</i> , 2014 , 50, 5703-5	5.8	65
399	From brittle to ductile: a structure dependent ductility of diamond nanothread. <i>Nanoscale</i> , 2016 , 8, 11177-84	7.84	65
398	A combined numerical-experimental study on the effect of surface evolution on the water-based multiphase flow characteristics and the material erosion behavior. <i>Wear</i> , 2014 , 319, 96-109	3.5	64
397	A theoretical analysis of frictional and defect characteristics of graphene probed by a capped single-walled carbon nanotube. <i>Carbon</i> , 2011 , 49, 3687-3697	10.4	63
396	An Anomalous Formation Pathway for Dislocation-Sulfur Vacancy Complexes in Polycrystalline Monolayer MoS ₂ . <i>Nano Letters</i> , 2015 , 15, 6855-61	11.5	62
395	Large Electronic Anisotropy and Enhanced Chemical Activity of Highly Rippled Phosphorene. <i>Journal of Physical Chemistry C</i> , 2016 , 120, 6876-6884	3.8	61
394	Thermal conductivity of fluorinated graphene: A non-equilibrium molecular dynamics study. <i>Chemical Physics Letters</i> , 2012 , 552, 97-101	2.5	61
393	On the notch sensitivity of CuZr metallic glasses. <i>Applied Physics Letters</i> , 2013 , 103, 081903	3.4	60
392	Nanostructure and surface effects on yield in Cu nanowires. <i>Acta Materialia</i> , 2013 , 61, 1831-1842	8.4	60
391	Temperature-dependent bending rigidity of graphene. <i>Applied Physics Letters</i> , 2009 , 94, 231912	3.4	59
390	On intrinsic brittleness and ductility of intergranular fracture along symmetrical tilt grain boundaries in copper. <i>Acta Materialia</i> , 2010 , 58, 2293-2299	8.4	59

389	The Critical Role of Substrate in Stabilizing Phosphorene Nanoflake: A Theoretical Exploration. <i>Journal of the American Chemical Society</i> , 2016 , 138, 4763-71	16.4	59
388	The inverse Hall-Petch relation in nanocrystalline metals: A discrete dislocation dynamics analysis. <i>Journal of the Mechanics and Physics of Solids</i> , 2016 , 88, 252-266	5	58
387	Robust Direct Bandgap Characteristics of One- and Two-Dimensional ReS ₂ . <i>Scientific Reports</i> , 2015 , 5, 13783	4.9	57
386	GaN/ZnO superlattice nanowires as photocatalyst for hydrogen generation: A first-principles study on electronic and magnetic properties. <i>Nano Energy</i> , 2012 , 1, 488-493	17.1	57
385	Necking and notch strengthening in metallic glass with symmetric sharp-and-deep notches. <i>Scientific Reports</i> , 2015 , 5, 10797	4.9	56
384	High oscillator strength interlayer excitons in two-dimensional heterostructures for mid-infrared photodetection. <i>Nature Nanotechnology</i> , 2020 , 15, 675-682	28.7	56
383	A numerical study on the effect of particle shape on the erosion of ductile materials. <i>Wear</i> , 2014 , 313, 135-142	3.5	56
382	Black Phosphorus N-Type Field-Effect Transistor with Ultrahigh Electron Mobility via Aluminum Adatoms Doping. <i>Small</i> , 2017 , 13, 1602909	11	56
381	Peptide-Graphene Interactions Enhance the Mechanical Properties of Silk Fibroin. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 21787-96	9.5	55
380	The structure and elastic properties of phosphorene edges. <i>Nanotechnology</i> , 2015 , 26, 235707	3.4	55
379	Composition and grain size effects on the structural and mechanical properties of CuZr nanoglasses. <i>Journal of Applied Physics</i> , 2014 , 116, 043522	2.5	55
378	Large-scale molecular dynamics simulations of wear in diamond-like carbon at the nanoscale. <i>Applied Physics Letters</i> , 2013 , 103, 073118	3.4	55
377	Thermal conductivity of silicon nanowires: From fundamentals to phononic engineering. <i>Physica Status Solidi - Rapid Research Letters</i> , 2013 , 7, 754-766	2.5	54
376	In-plane and cross-plane thermal conductivities of molybdenum disulfide. <i>Nanotechnology</i> , 2015 , 26, 065703	3.4	53
375	Nanoindentation of polymers with a sharp indenter. <i>Journal of Materials Research</i> , 2005 , 20, 1597-1605	2.5	52
374	Exploring Ag(111) Substrate for Epitaxially Growing Monolayer Stanene: A First-Principles Study. <i>Scientific Reports</i> , 2016 , 6, 29107	4.9	52
373	Superior lattice thermal conductance of single-layer borophene. <i>Npj 2D Materials and Applications</i> , 2017 , 1,	8.8	51
372	Stress gradient enhanced plasticity in a monolithic bulk metallic glass. <i>Intermetallics</i> , 2008 , 16, 1190-1198	3.5	51

371	A first-principles study on the adsorption of small molecules on antimonene: oxidation tendency and stability. <i>Journal of Materials Chemistry C</i> , 2018 , 6, 4308-4317	7.1	50
370	Self-organization, shape transition, and stability of epitaxially strained islands. <i>Physical Review B</i> , 2000 , 61, 10388-10392	3.3	50
369	Diamond Nanothread as a New Reinforcement for Nanocomposites. <i>Advanced Functional Materials</i> , 2016 , 26, 5279-5283	15.6	49
368	Tunable Mechanical and Thermal Properties of One-Dimensional Carbyne Chain: Phase Transition and Microscopic Dynamics. <i>Journal of Physical Chemistry C</i> , 2015 , 119, 24156-24164	3.8	48
367	Microstructure versus flaw: mechanisms of failure and strength in nanostructures. <i>Nano Letters</i> , 2013 , 13, 5703-9	11.5	48
366	On the failure load and mechanism of polycrystalline graphene by nanoindentation. <i>Scientific Reports</i> , 2014 , 4, 7437	4.9	48
365	Graphene-based pressure nano-sensors. <i>Journal of Molecular Modeling</i> , 2011 , 17, 2825-30	2	48
364	Exploring the charge localization and band gap opening of borophene: a first-principles study. <i>Nanoscale</i> , 2018 , 10, 1403-1410	7.7	48
363	Optical properties of InAs/GaAs surface quantum dots. <i>Applied Physics Letters</i> , 2005 , 86, 031914	3.4	47
362	Extracting the mechanical properties of a viscoelastic polymeric film on a hard elastic substrate. <i>Journal of Materials Research</i> , 2004 , 19, 3053-3061	2.5	47
361	Electrostatic-Driven Exfoliation and Hybridization of 2D Nanomaterials. <i>Advanced Materials</i> , 2017 , 29, 1700326	24	46
360	Polycrystal deformation in a discrete dislocation dynamics framework. <i>Acta Materialia</i> , 2014 , 75, 92-105	8.4	46
359	Thermal properties of two-dimensional materials. <i>Chinese Physics B</i> , 2017 , 26, 034401	1.2	45
358	Substantial tensile ductility in sputtered Zr-Ni-Al nano-sized metallic glass. <i>Acta Materialia</i> , 2016 , 118, 270-285	8.4	45
357	MoS ₂ -graphene in-plane contact for high interfacial thermal conduction. <i>Nano Research</i> , 2017 , 10, 2944-2953	20.53	44
356	Atomic vacancies significantly degrade the mechanical properties of phosphorene. <i>Nanotechnology</i> , 2016 , 27, 315704	3.4	44
355	Oscillatory behavior of gigahertz oscillators based on multiwalled carbon nanotubes. <i>Journal of Applied Physics</i> , 2005 , 98, 014301	2.5	43
354	Hall-Petch and inverse Hall-Petch relations in high-entropy CoNiFeAl _x Cu _{1-x} alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020 , 773, 138873	5.3	43

353	Strain stabilized nickel hydroxide nanoribbons for efficient water splitting. <i>Energy and Environmental Science</i> , 2020 , 13, 229-237	35.4	43
352	Simultaneous edge and electronic control of MoS nanosheets through Fe doping for an efficient oxygen evolution reaction. <i>Nanoscale</i> , 2018 , 10, 20113-20119	7.7	43
351	A supertough electro-tendon based on spider silk composites. <i>Nature Communications</i> , 2020 , 11, 1332	17.4	42
350	Three dimensional finite element analysis of the evolution of voids and thin films by strain and electromigration induced surface diffusion. <i>Journal of the Mechanics and Physics of Solids</i> , 1998 , 47, 173-199	5.9	42
349	Constructing metallic nanoroads on a MoS ₂ monolayer via hydrogenation. <i>Nanoscale</i> , 2014 , 6, 1691-7	7.7	41
348	Thermal Conduction Across Graphene Cross-Linkers. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 12541-12547	3.5	41
347	Strain and defect engineered monolayer Ni-MoS for pH-universal hydrogen evolution catalysis. <i>Nanoscale</i> , 2019 , 11, 18329-18337	7.7	41
346	Predictive model for porosity in powder-bed fusion additive manufacturing at high beam energy regime. <i>Additive Manufacturing</i> , 2018 , 22, 817-822	6.1	41
345	A singular cell-based smoothed radial point interpolation method for fracture problems. <i>Computers and Structures</i> , 2011 , 89, 1378-1396	4.5	40
344	Coarsening kinetics of heteroepitaxial islands in nucleationless Stranski-Krastanov growth. <i>Physical Review B</i> , 2003 , 68,	3.3	40
343	Controlling the thermal conductance of graphene/hBN lateral interface with strain and structure engineering. <i>Physical Review B</i> , 2016 , 93,	3.3	39
342	Hydrogenated Grain Boundaries Control the Strength and Ductility of Polycrystalline Graphene. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 13769-13774	3.8	39
341	A comparative density functional study on electrical properties of layered penta-graphene. <i>Journal of Applied Physics</i> , 2015 , 118, 165706	2.5	39
340	Phonon mean free path spectrum and thermal conductivity for Si _{1-x} Gex nanowires. <i>Applied Physics Letters</i> , 2014 , 104, 233901	3.4	39
339	Strain-controlled switching of hierarchically wrinkled surfaces between superhydrophobicity and superhydrophilicity. <i>Langmuir</i> , 2012 , 28, 2753-60	4	39
338	Black Phosphorus Carbide as a Tunable Anisotropic Plasmonic Metasurface. <i>ACS Photonics</i> , 2018 , 5, 3116-3123	3.3	39
337	Effect of aspect ratio on the mechanical properties of metallic glasses. <i>Scripta Materialia</i> , 2014 , 93, 36-39	3.6	38
336	Analysis of the oscillatory behavior of double-walled carbon nanotube-based oscillators. <i>Carbon</i> , 2006 , 44, 27-36	10.4	38

335	Design of Phosphorene for Hydrogen Evolution Performance Comparable to Platinum. <i>Chemistry of Materials</i> , 2019 , 31, 8948-8956	9.6	37
334	A modified Tersoff potential for pure and hydrogenated diamond-like carbon. <i>Computational Materials Science</i> , 2013 , 67, 146-150	3.2	37
333	A NOVEL GENERAL FORMULATION FOR SINGULAR STRESS FIELD USING THE ES-FEM METHOD FOR THE ANALYSIS OF MIXED-MODE CRACKS. <i>International Journal of Computational Methods</i> , 2010 , 07, 191-214	11.14	37
332	Three-dimensional analysis of shape transitions in strained-heteroepitaxial islands. <i>Applied Physics Letters</i> , 2001 , 78, 2706-2708	3.4	37
331	Is the failure of large-area polycrystalline graphene notch sensitive or insensitive?. <i>Carbon</i> , 2014 , 72, 200-206	10.4	36
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