

# Changqing Chen

## List of Publications by Year in descending order

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135  
papers

5,464  
citations

53794

45  
h-index

91884

69  
g-index

136  
all docs

136  
docs citations

136  
times ranked

4168  
citing authors

#	ARTICLE	IF	CITATIONS
1	Effect of imperfections on the yielding of two-dimensional foams. <i>Journal of the Mechanics and Physics of Solids</i> , 1999, 47, 2235-2272.	4.8	381
2	Effects of size on the mechanical response of metallic glasses investigated through in situ TEM bending and compression experiments. <i>Acta Materialia</i> , 2010, 58, 189-200.	7.9	246
3	Impact resistance of uniform and functionally graded auxetic double arrowhead honeycombs. <i>International Journal of Impact Engineering</i> , 2015, 83, 47-58.	5.0	224
4	Thermal transport and fire retardance properties of cellular aluminium alloys. <i>Acta Materialia</i> , 1999, 47, 1469-1485.	7.9	201
5	Compressive strength and energy absorption of sandwich panels with aluminum foam-filled corrugated cores. <i>Composites Science and Technology</i> , 2013, 86, 142-148.	7.8	161
6	Intrinsic and extrinsic size effects in the deformation of metallic glass nanopillars. <i>Acta Materialia</i> , 2012, 60, 889-898.	7.9	144
7	The plastic collapse of sandwich beams with a metallic foam core. <i>International Journal of Mechanical Sciences</i> , 2001, 43, 1483-1506.	6.7	142
8	Three-point bending of sandwich beams with aluminum foam-filled corrugated cores. <i>Materials &amp; Design</i> , 2014, 60, 510-519.	5.1	120
9	Three-dimensional modeling of the mechanical property of linearly elastic open cell foams. <i>International Journal of Solids and Structures</i> , 2005, 42, 6628-6642.	2.7	115
10	In-plane crushing of a hierarchical honeycomb. <i>International Journal of Solids and Structures</i> , 2016, 85-86, 57-66.	2.7	111
11	Molecular dynamics study on the nano-void growth in face-centered cubic single crystal copper. <i>Computational Materials Science</i> , 2009, 46, 749-754.	3.0	109
12	Analyses on the In-Plane Impact Resistance of Auxetic Double Arrowhead Honeycombs. <i>Journal of Applied Mechanics</i> , <i>Transactions ASME</i> , 2015, 82, .	2.2	99
13	Vibroacoustic behavior of clamp mounted double-panel partition with enclosure air cavity. <i>Journal of the Acoustical Society of America</i> , 2008, 124, 3604-3612.	1.1	98
14	Mechanisms of Bimaterial Attachment at the Interface of Tendon to Bone. <i>Journal of Engineering Materials and Technology</i> , <i>Transactions of the ASME</i> , 2011, 133, .	1.4	96
15	A high order theory for functionally graded piezoelectric shells. <i>International Journal of Solids and Structures</i> , 2002, 39, 5325-5344.	2.7	85
16	A direct finite element method study of generalized thermoelastic problems. <i>International Journal of Solids and Structures</i> , 2006, 43, 2050-2063.	2.7	76
17	Modelling the mechanics of partially mineralized collagen fibrils, fibres and tissue. <i>Journal of the Royal Society Interface</i> , 2014, 11, 20130835.	3.4	74
18	Effect of inclusions and holes on the stiffness and strength of honeycombs. <i>International Journal of Mechanical Sciences</i> , 2001, 43, 487-504.	6.7	73

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19	The plastic collapse and energy absorption capacity of egg-box panels. <i>International Journal of Mechanical Sciences</i> , 2003, 45, 851-871.	6.7	69
20	Programmable and robust static topological solitons in mechanical metamaterials. <i>Nature Communications</i> , 2019, 10, 5605.	12.8	69
21	Ultralight X-type lattice sandwich structure (I): Concept, fabrication and experimental characterization. <i>Science in China Series D: Earth Sciences</i> , 2009, 52, 2147-2154.	0.9	66
22	Exact solution of orthotropic cylindrical shell with piezoelectric layers under cylindrical bending. <i>International Journal of Solids and Structures</i> , 1996, 33, 4481-4494.	2.7	65
23	An exact solution for functionally graded piezothermoelastic cylindrical shell as sensors or actuators. <i>Materials Letters</i> , 2003, 57, 3532-3542.	2.6	64
24	Strengthening and toughening mechanisms of amorphous/amorphous nanolaminates. <i>International Journal of Plasticity</i> , 2016, 80, 75-85.	8.8	63
25	A mechanical metamaterial with reprogrammable logical functions. <i>Nature Communications</i> , 2021, 12, 7234.	12.8	63
26	The effect of hole size upon the strength of metallic and polymeric foams. <i>Journal of the Mechanics and Physics of Solids</i> , 2001, 49, 2015-2030.	4.8	62
27	External Mean Flow Influence on Noise Transmission Through Double-Leaf Aeroelastic Plates. <i>AIAA Journal</i> , 2009, 47, 1939-1951.	2.6	61
28	Multi-step deformation mechanical metamaterials. <i>Journal of the Mechanics and Physics of Solids</i> , 2020, 144, 104095.	4.8	60
29	A constitutive model for transversely isotropic foams, and its application to the indentation of balsa wood. <i>International Journal of Mechanical Sciences</i> , 2005, 47, 666-686.	6.7	59
30	Strain rate sensitivity of skin tissue under thermomechanical loading. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2010, 368, 679-690.	3.4	59
31	Size effects on tensile and compressive strengths in metallic glass nanowires. <i>Journal of the Mechanics and Physics of Solids</i> , 2015, 84, 130-144.	4.8	59
32	Finite element approach of vibration control using self-sensing piezoelectric actuators. <i>Computers and Structures</i> , 1996, 60, 505-512.	4.4	56
33	Sound Transmission Through Simply Supported Finite Double-Panel Partitions With Enclosed Air Cavity. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2010, 132, .	1.6	56
34	Piezothermoelasticity analysis for a circular cylindrical shell under the state of axisymmetric deformation. <i>International Journal of Engineering Science</i> , 1996, 34, 1585-1600.	5.0	55
35	Elastic properties of tetragonal BiFeO <sub>3</sub> from first-principles calculations. <i>Applied Physics Letters</i> , 2013, 102, .	3.3	55
36	Design optimization of foam-reinforced corrugated sandwich beams. <i>Composite Structures</i> , 2015, 130, 51-62.	5.8	54

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37	Optimal control of active structures with piezoelectric modal sensors and actuators. <i>Smart Materials and Structures</i> , 1997, 6, 403-409.	3.5	51
38	The mechanical behavior of porous metal fiber sintered sheets. <i>Journal of the Mechanics and Physics of Solids</i> , 2013, 61, 161-174.	4.8	51
39	Evaporation Limited Radial Capillary Penetration in Porous Media. <i>Langmuir</i> , 2016, 32, 9899-9904.	3.5	51
40	Bistability-based foldable origami mechanical logic gates. <i>Extreme Mechanics Letters</i> , 2021, 43, 101180.	4.1	50
41	Atomistic mechanisms of fatigue in nanotwinned metals. <i>Acta Materialia</i> , 2015, 99, 77-86.	7.9	48
42	Perspectives in mechanics of heterogeneous solids. <i>Acta Mechanica Solida Sinica</i> , 2011, 24, 1-26.	1.9	47
43	High efficiency and broadband acoustic diodes. <i>Applied Physics Letters</i> , 2018, 112, .	3.3	47
44	The mode I crack growth resistance of metallic foams. <i>Journal of the Mechanics and Physics of Solids</i> , 2001, 49, 231-259.	4.8	45
45	Computational simulation of thermally sprayed WC-Co powder. <i>Computational Materials Science</i> , 2008, 43, 1172-1182.	3.0	45
46	Effects of stress and electric field on the electromechanical properties of $\text{Pb}(\text{Mg}_{1-x}\text{Nb}_2\text{O}_3)_{0.32}\text{PbTiO}_3$ single crystals. <i>Journal of Applied Physics</i> , 2005, 98, 024103.	2.5	44
47	Tuning the locally resonant phononic band structures of two-dimensional periodic electroactive composites. <i>Physica B: Condensed Matter</i> , 2013, 431, 23-31.	2.7	44
48	Deployable mechanical metamaterials with multistep programmable transformation. <i>Science Advances</i> , 2022, 8, .	10.3	43
49	An improved semi-analytical solution for stress at round-tip notches. <i>Engineering Fracture Mechanics</i> , 2015, 149, 134-143.	4.3	38
50	Dynamic stability of functionally graded piezoelectric circular cylindrical shells. <i>Materials Letters</i> , 2005, 59, 477-485.	2.6	37
51	Numerical modelling of sequential droplet impingements. <i>Journal Physics D: Applied Physics</i> , 2008, 41, 165303.	2.8	36
52	Collapse mechanisms of metallic sandwich structures with aluminum foam-filled corrugated cores. <i>Journal of Mechanics of Materials and Structures</i> , 2014, 9, 397-425.	0.6	36
53	First-principles investigations of ferroelectricity and piezoelectricity in $\text{BaTiO}_3$ superlattices. <i>Physical Review B</i> , 2012, 85, .	3.2	35
54	Band structures of two dimensional solid/air hierarchical phononic crystals. <i>Physica B: Condensed Matter</i> , 2012, 407, 1995-2001.	2.7	35

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55	Ultralight X-type lattice sandwich structure (II): Micromechanics modeling and finite element analysis. <i>Science in China Series D: Earth Sciences</i> , 2009, 52, 2670-2680.	0.9	32
56	Folding to Curved Surfaces: A Generalized Design Method and Mechanics of Origami-based Cylindrical Structures. <i>Scientific Reports</i> , 2016, 6, 33312.	3.3	32
57	Patterning Curved Three-Dimensional Structures With Programmable Kirigami Designs. <i>Journal of Applied Mechanics</i> , <i>Transactions ASME</i> , 2017, 84, .	2.2	32
58	Strengthening mechanisms in nanoporous metallic glasses. <i>Computational Materials Science</i> , 2018, 155, 151-158.	3.0	32
59	Indentation responses of piezoelectric films ideally bonded to an elastic substrate. <i>International Journal of Solids and Structures</i> , 2011, 48, 2743-2754.	2.7	31
60	Tuning capillary penetration in porous media: Combining geometrical and evaporation effects. <i>International Journal of Heat and Mass Transfer</i> , 2018, 123, 239-250.	4.8	31
61	Tunable self-organization of nanocomposite multilayers. <i>Applied Physics Letters</i> , 2010, 96, .	3.3	30
62	Nanoscale deformation mechanism of TiC/a-C nanocomposite thin films. <i>Journal of Applied Physics</i> , 2009, 105, .	2.5	29
63	Electromechanical coupling properties of [001], [011] and [111] poled Pb(Mg <sub>1/3</sub> Nb <sub>2/3</sub> )O <sub>3</sub> -0.32PbTiO <sub>3</sub> single crystals. <i>Journal of Materials Science</i> , 2006, 41, 2993-3000.	3.7	28
64	Two-dimensional modeling of the self-limiting oxidation in silicon and tungsten nanowires. <i>Theoretical and Applied Mechanics Letters</i> , 2016, 6, 195-199.	2.8	26
65	Strength of submicrometer diameter pillars of metallic glasses investigated within situ transmission electron microscopy. <i>Philosophical Magazine Letters</i> , 2009, 89, 633-640.	1.2	25
66	Propagation of shear elastic and electromagnetic waves in one dimensional piezoelectric and piezomagnetic composites. <i>Ultrasonics</i> , 2015, 55, 42-47.	3.9	25
67	Ordered deformation localization in cellular mechanical metamaterials. <i>Journal of the Mechanics and Physics of Solids</i> , 2019, 123, 28-40.	4.8	25
68	Multiaxial behavior of nanoporous single crystal copper: a molecular dynamics study. <i>Acta Mechanica Sinica</i> , 2009, 22, 650-656.	1.9	24
69	Wave Characteristics of Two-Dimensional Hierarchical Hexagonal Lattice Structures. <i>Journal of Vibration and Acoustics</i> , <i>Transactions of the ASME</i> , 2014, 136, .	1.6	23
70	Three-Dimensional Analysis for the Free Vibration of Finite-Length Orthotropic Piezoelectric Circular Cylindrical Shells. <i>Journal of Vibration and Acoustics</i> , <i>Transactions of the ASME</i> , 1998, 120, 194-198.	1.6	22
71	Dynamic response and acoustic radiation of double-leaf metallic panel partition under sound excitation. <i>Computational Materials Science</i> , 2009, 46, 728-732.	3.0	22
72	Numerical modeling the bonding mechanism of HVOF sprayed particles. <i>Computational Materials Science</i> , 2009, 46, 1038-1043.	3.0	21

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73	The impact response of clamped sandwich beams with ordinary and hierarchical cellular cores. <i>International Journal of Impact Engineering</i> , 2012, 47, 14-23.	5.0	21
74	Tailoring porous media for controllable capillary flow. <i>Journal of Colloid and Interface Science</i> , 2019, 539, 379-387.	9.4	20
75	Multi-step metamaterials with two phases of elastic and plastic deformation. <i>Composite Structures</i> , 2021, 271, 114152.	5.8	20
76	On the evolution of film roughness during magnetron sputtering deposition. <i>Journal of Applied Physics</i> , 2010, 108, 094330.	2.5	19
77	Three dimensional analysis of the dynamic stability of piezoelectric circular cylindrical shells. <i>European Journal of Mechanics, A/Solids</i> , 2003, 22, 401-411.	3.7	18
78	The shear properties and deformation mechanisms of porous metal fiber sintered sheets. <i>Mechanics of Materials</i> , 2014, 70, 33-40.	3.2	18
79	Molecular dynamic simulations of the mechanical properties of crystalline/crystalline and crystalline/amorphous nanolayered pillars. <i>Computational Materials Science</i> , 2015, 101, 194-200.	3.0	18
80	Creep Response of Sandwich Beams with a Metallic Foam Core. <i>Advanced Engineering Materials</i> , 2002, 4, 777-780.	3.5	17
81	Improving ductility of nanoporous metallic glasses. <i>Computational Materials Science</i> , 2019, 167, 111-117.	3.0	17
82	Abnormal ferroelectric response and enhancement of piezoelectricity of PbTiO <sub>3</sub> under uniaxial compression. <i>Journal of Applied Physics</i> , 2008, 103, .	2.5	16
83	On the dynamic roughening transition in nanocomposite film growth. <i>Applied Physics Letters</i> , 2009, 95, 223102.	3.3	16
84	Elastoplastic properties of transversely isotropic sintered metal fiber sheets. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016, 662, 308-319.	5.6	16
85	Effect of the oxygen vacancy on the ferroelectricity of 90° domain wall structure in PbTiO <sub>3</sub> : A density functional theory study. <i>Journal of Applied Physics</i> , 2019, 126, .	2.5	16
86	Structural periodicity dependent scattering behavior in parity-time symmetric elastic metamaterials. <i>Physical Review B</i> , 2022, 106, .	3.2	16
87	Dynamic Crushing of All-Metallic Corrugated Panels Filled With Close-Celled Aluminum Foams. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2015, 82, .	2.2	15
88	Surface roughness evolution of nanocomposite thin films. <i>Journal of Applied Physics</i> , 2009, 105, .	2.5	14
89	Multiaxial creep of low density open-cell foams. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2012, 540, 83-88.	5.6	14
90	Amplitude-dependent boundary modes in topological mechanical lattices. <i>Journal of the Mechanics and Physics of Solids</i> , 2021, 153, 104482.	4.8	14

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91	The effects of micro-defects and crack on the mechanical properties of metal fiber sintered sheets. International Journal of Solids and Structures, 2014, 51, 1946-1953.	2.7	12
92	The pore-load modulus of ordered nanoporous materials with surface effects. AIP Advances, 2016, 6, 035324.	1.3	12
93	A phenomenological elastoplastic model for porous metal fiber sintered sheets. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 582, 188-193.	5.6	11
94	The Existence of Simultaneous Bragg and Locally Resonant Band Gaps in Composite Phononic Crystal. Chinese Physics Letters, 2013, 30, 044301.	3.3	11
95	Atomistic investigation of the intrinsic toughening mechanism in metallic glass. Computational Materials Science, 2016, 117, 188-194.	3.0	11
96	Analytical solutions for elastic response of coated mesoporous materials to pore pressure. International Journal of Engineering Science, 2016, 107, 68-76.	5.0	10
97	Nanoscale deformation in TiC <sup>a</sup> -C multilayered nanocomposite coatings. Applied Physics Letters, 2008, 92, 241913.	3.3	9
98	A coupled analysis of the piezoresponse force microscopy signals. Applied Physics Letters, 2011, 99, 171913.	3.3	9
99	Phonon-polariton and band structure of electro-magneto-acoustic SH wave propagation oblique to the periodic layered piezoelectric structures. Physics Letters, Section A: General, Atomic and Solid State Physics, 2013, 377, 895-902.	2.1	9
100	A micromechanical analysis of the fracture properties of saturated porous media. International Journal of Solids and Structures, 2015, 63, 32-38.	2.7	9
101	Stability and initial post-buckling of a standing sandwich beam under terminal force and self-weight. Archive of Applied Mechanics, 2016, 86, 1063-1082.	2.2	9
102	Effects of Thickness on the Responses of Piezoresponse Force Microscopy for Piezoelectric Film/Substrate Systems. Journal of Applied Mechanics, Transactions ASME, 2017, 84, .	2.2	9
103	Thickness effect on mechanical behavior of auxetic sintered metal fiber sheets. Materials and Design, 2019, 167, 107635.	7.0	9
104	Investigations of the Nonlinear Behavior of Piezoceramic Hollow Cylinders. Journal of Intelligent Material Systems and Structures, 2006, 17, 521-532.	2.5	8
105	Equilibrium-based convolution neural networks for constitutive modeling of hyperelastic materials. Journal of the Mechanics and Physics of Solids, 2022, 164, 104931.	4.8	8
106	Electromechanical properties of [001], [011] and [111] oriented Pb(Mg <sub>1/3</sub> Nb <sub>2/3</sub> )O <sub>3</sub> –0.32PbTiO <sub>3</sub> crystals under uniaxial stress. Materials Research Bulletin, 2006, 41, 778-783.	5.2	7
107	Dynamic smoothing of nanocomposite films. Applied Physics Letters, 2010, 96, 151910.	3.3	7
108	Multiscale modeling of the effective elastic properties of fluid-filled porous materials. International Journal of Solids and Structures, 2019, 162, 36-44.	2.7	7

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109	Cracking to curling transition in drying colloidal films. <i>European Physical Journal E</i> , 2020, 43, 64.	1.6	7
110	A Micromechanics-based Finite Element Model for the Constitutive Behavior of Polycrystalline Ferromagnets. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2006, 22, 257-264.	3.4	6
111	Influence of in-plane biaxial stress on the structural properties, ferroelectric response, and piezoelectricity of tetragonal PbTiO <sub>3</sub> . <i>Journal of Applied Physics</i> , 2009, 105, 033706.	2.5	6
112	Effect of epitaxial strain on the properties of short-period BaTiO <sub>3</sub> /PbTiO <sub>3</sub> superlattice from first-principles calculations. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2010, 374, 2075-2078.	2.1	6
113	Pulsed DC sputtered DLC based nanocomposite films: controlling growth dynamics, microstructure and frictional properties. <i>Materials Technology</i> , 2011, 26, 15-19.	3.0	6
114	Pointwise Plucking of Suspended Carbon Nanotubes. <i>Nano Letters</i> , 2012, 12, 3663-3667.	9.1	5
115	A mechanical wave switch with tunable frequency output. <i>Applied Physics Letters</i> , 2019, 115, .	3.3	5
116	Large Deformation and Instability of Soft Hollow Cylinder With Surface Effects. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2021, 88, .	2.2	5
117	Influence of Uniaxial Tensile Stress on the Mechanical and Piezoelectric Properties of Short-period Ferroelectric Superlattice. <i>Nanoscale Research Letters</i> , 2010, 5, 448-452.	5.7	4
118	Stability, elastic properties, and electronic structure of germanane nanoribbons. <i>Journal of Physics Condensed Matter</i> , 2015, 27, 245303.	1.8	4
119	Numerical Study on the Large Deformation of Silicone Rubber Foams Based on Random Cell Models. <i>Advanced Materials Research</i> , 0, 189-193, 2087-2091.	0.3	3
120	Electronic excitation in graphene under single-particle irradiation. <i>Nanotechnology</i> , 2021, 32, 165702.	2.6	3
121	TUNABLE BAND STRUCTURES OF 2D MULTI-ATOM ARCHIMEDEAN-LIKE PHONONIC CRYSTALS. <i>International Journal of Computational Materials Science and Engineering</i> , 2012, 01, 1250016.	0.7	2
122	Molecular dynamics simulations of silicon carbide nanowires under single-ion irradiation. <i>Journal of Applied Physics</i> , 2019, 126, 125902.	2.5	2
123	Uniaxial electromechanical behavior of ferroelectric ceramic PZT-53. <i>Journal of Materials Science</i> , 2006, 41, 549-555.	3.7	1
124	United steering of Control Moment Gyros for small satellite with limited gimbal rate. , 2010, , .		1
125	A Numerical Study on the Large Deformations of Polymer Foams with Spherical Pores. <i>Advanced Materials Research</i> , 0, 295-297, 1581-1585.	0.3	1
126	The effective electromechanical properties of three-dimensional piezoelectric fiber networks. <i>International Journal of Mechanical Sciences</i> , 2021, 196, 106306.	6.7	1



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127	Atomistic investigation of mechanical properties of metallic glass nanocomposites. Modelling and Simulation in Materials Science and Engineering, 2020, 28, 085004.	2.0	1
128	A method of solution for effective modulus for periodic distributed voids. International Journal of Fracture, 1993, 63, R75-R80.	2.2	0
129	In-situ TEM investigation of deformation behavior of metallic glass pillars. Materials Research Society Symposia Proceedings, 2009, 1185, 106.	0.1	0
130	The mechanical properties of a transverse isotropic voided material. Composite Structures, 2011, 93, 2213-2221.	5.8	0
131	Elastoplastic Indentation Responses of Nanoporous Film/Substrate System. Integrated Ferroelectrics, 2011, 129, 85-94.	0.7	0
132	Determination of Elastic Modulus and Poisson Ratio for Nanoporous Materials. Advanced Materials Research, 0, 466-467, 366-370.	0.3	0
133	Mechanical Properties of the Honeycomb Nanoporous Membranes. Applied Mechanics and Materials, 2014, 633-634, 44-51.	0.2	0
134	Asymptotic Effective Piezoelectric Coefficient Solution of Piezoresponse Force Microscopy for a Transversely Isotropic Piezoelectric Film. , 2015, , .		0
135	Dynamic smoothening and tribological properties of pulsed-DC sputtered DLC based nanocomposite films. , 2009, , .		0