

Kai Wei

List of Publications by Year in descending order

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78
papers

2,562
citations

172457

29
h-index

214800

47
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78
all docs

78
docs citations

78
times ranked

1660
citing authors

#	ARTICLE	IF	CITATIONS
1	Planar lattices with tailorable coefficient of thermal expansion and high stiffness based on dual-material triangle unit. <i>Journal of the Mechanics and Physics of Solids</i> , 2016, 86, 173-191.	4.8	196
2	Ambient bioaerosol particle dynamics observed during haze and sunny days in Beijing. <i>Science of the Total Environment</i> , 2016, 550, 751-759.	8.0	123
3	A cellular metastructure incorporating coupled negative thermal expansion and negative Poisson's ratio. <i>International Journal of Solids and Structures</i> , 2018, 150, 255-267.	2.7	119
4	MS2 Virus Inactivation by Atmospheric-Pressure Cold Plasma Using Different Gas Carriers and Power Levels. <i>Applied and Environmental Microbiology</i> , 2015, 81, 996-1002.	3.1	106
5	Three dimensional lightweight lattice structures with large positive, zero and negative thermal expansion. <i>Composite Structures</i> , 2018, 188, 287-296.	5.8	90
6	Mechanical properties and energy absorption of 3D printed square hierarchical honeycombs under in-plane axial compression. <i>Composites Part B: Engineering</i> , 2019, 176, 107219.	12.0	88
7	A novel sub-step composite implicit time integration scheme for structural dynamics. <i>Computers and Structures</i> , 2017, 182, 176-186.	4.4	76
8	Experimentally program large magnitude of Poisson's ratio in additively manufactured mechanical metamaterials. <i>International Journal of Mechanical Sciences</i> , 2020, 173, 105466.	6.7	68
9	A lightweight, high compression strength ultra high temperature ceramic corrugated panel with potential for thermal protection system applications. <i>Materials & Design</i> , 2015, 66, 552-556.	5.1	67
10	Fabrication and heat transfer characteristics of C/SiC pyramidal core lattice sandwich panel. <i>Applied Thermal Engineering</i> , 2015, 81, 10-17.	6.0	66
11	Thermal protection system integrating graded insulation materials and multilayer ceramic matrix composite cellular sandwich panels. <i>Composite Structures</i> , 2019, 209, 523-534.	5.8	62
12	Fabrication and mechanical properties of lightweight ZrO ₂ ceramic corrugated core sandwich panels. <i>Materials & Design</i> , 2014, 64, 91-95.	5.1	60
13	Mechanical properties of Invar 36 alloy additively manufactured by selective laser melting. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020, 772, 138799.	5.6	59
14	Design and analysis of integrated thermal protection system based on lightweight C/SiC pyramidal lattice core sandwich panel. <i>Materials and Design</i> , 2016, 111, 435-444.	7.0	57
15	Mechanical behavior and progressive failure analysis of riveted, bonded and hybrid joints with CFRP-aluminum dissimilar materials. <i>Thin-Walled Structures</i> , 2019, 139, 271-280.	5.3	56
16	Tailorable Thermal Expansion of Lightweight and Robust Dual-Constituent Triangular Lattice Material. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2017, 84, .	2.2	51
17	Mechanical responses of titanium 3D kagome lattice structure manufactured by selective laser melting. <i>Extreme Mechanics Letters</i> , 2018, 23, 41-48.	4.1	51
18	Additively manufactured bi-material metamaterial to program a wide range of thermal expansion. <i>Materials and Design</i> , 2021, 198, 109343.	7.0	51

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19	Heat transfer mechanism of the C/SiC ceramics pyramidal lattice composites. <i>Composites Part B: Engineering</i> , 2014, 63, 8-14.	12.0	47
20	Structural and thermal analysis of integrated thermal protection systems with C/SiC composite cellular core sandwich panels. <i>Applied Thermal Engineering</i> , 2018, 131, 209-220.	6.0	47
21	Mechanical analysis and modeling of metallic lattice sandwich additively fabricated by selective laser melting. <i>Thin-Walled Structures</i> , 2020, 146, 106189.	5.3	45
22	The equivalent thermal conductivity of lattice core sandwich structure: A predictive model. <i>Applied Thermal Engineering</i> , 2016, 93, 236-243.	6.0	44
23	High temperature fracture toughness and residual stress in thermal barrier coatings evaluated by an in-situ indentation method. <i>Ceramics International</i> , 2018, 44, 7926-7929.	4.8	41
24	Lightweight composite lattice cylindrical shells with novel character of tailorable thermal expansion. <i>International Journal of Mechanical Sciences</i> , 2018, 137, 77-85.	6.7	38
25	Stereolithography additive manufacturing of multi-ceramic triangle structures with tunable thermal expansion. <i>Journal of the European Ceramic Society</i> , 2021, 41, 2796-2806.	5.7	34
26	A comparative study of three composite implicit schemes on structural dynamic and wave propagation analysis. <i>Computers and Structures</i> , 2017, 190, 126-149.	4.4	33
27	A viscoelastic model of compression and relaxation behaviors in preforming process for carbon fiber fabrics with binder. <i>Composites Part B: Engineering</i> , 2019, 158, 1-9.	12.0	32
28	High temperature mechanical behaviors of lightweight ceramic corrugated core sandwich panel. <i>Composite Structures</i> , 2017, 176, 379-387.	5.8	31
29	High temperature mechanical properties of lightweight C/SiC composite pyramidal lattice core sandwich panel. <i>Composite Structures</i> , 2017, 178, 467-475.	5.8	30
30	Design and analysis for large magnitudes of programmable Poisson's ratio in a series of lightweight cylindrical metastructures. <i>International Journal of Mechanical Sciences</i> , 2021, 195, 106220.	6.7	30
31	Improved Green Strength and Green Machinability of ZrB ₂ -SiC Through Gelcasting Based on a Double Gel Network. <i>Journal of the American Ceramic Society</i> , 2014, 97, 2401-2404.	3.8	29
32	Experimental study on hole quality and its impact on tensile behavior following pure and abrasive waterjet cutting of plain woven CFRP laminates. <i>International Journal of Advanced Manufacturing Technology</i> , 2018, 99, 2481-2490.	3.0	29
33	Design and analysis of lattice cylindrical shells with tailorable axial and radial thermal expansion. <i>Extreme Mechanics Letters</i> , 2018, 20, 51-58.	4.1	28
34	Preforming behaviors of carbon fiber fabrics with different contents of binder and under various process parameters. <i>Composites Part B: Engineering</i> , 2019, 166, 221-232.	12.0	27
35	Simultaneously program thermal expansion and Poisson's ratio in three dimensional mechanical metamaterial. <i>Composite Structures</i> , 2021, 262, 113365.	5.8	26
36	Microstructures and unique low thermal expansion of Invar 36 alloy fabricated by selective laser melting. <i>Materials Characterization</i> , 2020, 166, 110409.	4.4	25

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37	A quartic B-spline based explicit time integration scheme for structural dynamics with controllable numerical dissipation. <i>Computational Mechanics</i> , 2017, 59, 403-418.	4.0	24
38	Effects of ZrB ₂ contents on the mechanical properties and thermal shock resistance of B ₄ C-ZrB ₂ ceramics. <i>Materials & Design</i> , 2015, 71, 56-61.	5.1	23
39	Large programmable coefficient of thermal expansion in additively manufactured bi-material mechanical metamaterial. <i>Virtual and Physical Prototyping</i> , 2021, 16, S53-S65.	10.4	23
40	Non-Isothermal Crystallization Kinetics of Short Glass Fiber Reinforced Poly (Ether Ether Ketone) Composites. <i>Materials</i> , 2018, 11, 2094.	2.9	22
41	Effective thermal conductivity and heat transfer characteristics for a series of lightweight lattice core sandwich panels. <i>Applied Thermal Engineering</i> , 2020, 173, 115205.	6.0	22
42	Shear deformation characteristics and defect evolution of the biaxial $\pm 45^\circ$ and $0/90^\circ$ glass non-crimp fabrics. <i>Composites Science and Technology</i> , 2020, 193, 108137.	7.8	22
43	Stiffness characteristics for a series of lightweight mechanical metamaterials with programmable thermal expansion. <i>International Journal of Mechanical Sciences</i> , 2021, 202-203, 106527.	6.7	22
44	Mechanical performances and coupling design for the mechanical metamaterials with tailorable thermal expansion. <i>Mechanics of Materials</i> , 2022, 165, 104176.	3.2	22
45	Theoretical study and physical tests of circular hole-edge stress concentration in long glass fiber reinforced polypropylene composite. <i>Composite Structures</i> , 2020, 236, 111884.	5.8	21
46	Interlaminar shear behaviour and meso damage suppression mechanism of stitched composite under short beam shear using X-ray CT. <i>Composites Science and Technology</i> , 2022, 218, 109189.	7.8	20
47	Non-isothermal crystallization kinetics of continuous glass fiber-reinforced poly(ether ether ketone) composites. <i>Journal of Thermal Analysis and Calorimetry</i> , 2019, 138, 369-378.	3.6	19
48	Pre-oxidation temperature optimization of ultra-high temperature ceramic components: Flexural strength testing and residual stress analysis. <i>Ceramics International</i> , 2015, 41, 5085-5092.	4.8	18
49	Experimental characterization of the compaction behavior in preforming process for 3D stitched carbon fabric. <i>Composites Communications</i> , 2020, 19, 203-209.	6.3	16
50	Multi-functional cylindrical metastructures to simultaneously program both thermal expansion and Poisson's ratio. <i>Extreme Mechanics Letters</i> , 2021, 43, 101177.	4.1	15
51	Three-dimensional hierarchical metamaterials incorporating multi-directional programmable thermal expansion. <i>Mechanics of Materials</i> , 2021, 163, 104095.	3.2	15
52	Multi-material topology optimization and additive manufacturing for metamaterials incorporating double negative indexes of Poisson's ratio and thermal expansion. <i>Additive Manufacturing</i> , 2022, 54, 102742.	3.0	15
53	Heat transfer mechanism and characteristics of lightweight high temperature ceramic cellular sandwich. <i>Applied Thermal Engineering</i> , 2019, 154, 562-572.	6.0	14
54	Preforming characteristics in compaction process for fabric with binder under elevated temperature. <i>Composites Communications</i> , 2021, 23, 100545.	6.3	14

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55	Program multi-directional thermal expansion in a series of bending dominated mechanical metamaterials. <i>Thin-Walled Structures</i> , 2022, 174, 109147.	5.3	14
56	Effects of pre-strain and annealing on the fatigue properties of complex phase steel CP800. <i>International Journal of Fatigue</i> , 2020, 131, 105364.	5.7	13
57	A quadratic b-spline based isogeometric analysis of transient wave propagation problems with implicit time integration method. <i>Applied Mathematical Modelling</i> , 2018, 59, 115-131.	4.2	12
58	Strength and Failure Mechanism of Composite-Steel Adhesive Bond Single Lap Joints. <i>Advances in Materials Science and Engineering</i> , 2018, 2018, 1-10.	1.8	11
59	Development of designing lightweight composites and structures for tailorable thermal expansion. <i>Chinese Science Bulletin</i> , 2017, 62, 47-60.	0.7	11
60	Investigation of Occupant Lower Extremity Injuries under Various Overlap Frontal Crashes. <i>International Journal of Automotive Technology</i> , 2018, 19, 301-312.	1.4	10
61	Joining of C _f /SiC Ceramic Matrix Composites: A Review. <i>Advances in Materials Science and Engineering</i> , 2018, 2018, 1-15.	1.8	10
62	Meso/macro scale response of the comingled glass polypropylene 2-2 twill woven fabric under shear pre-tension coupling. <i>Composite Structures</i> , 2020, 236, 111854.	5.8	10
63	Negatively and positively charged bacterial aerosol concentration and diversity in natural environments. <i>Science Bulletin</i> , 2013, 58, 3169-3176.	1.7	8
64	A Study on the Compressive Performance of C/SiC Lattice Sandwich Panel at High Temperature. <i>International Journal of Applied Mechanics</i> , 2017, 09, 1750120.	2.2	8
65	Design and additive manufacturing of 3D-architected ceramic metamaterials with programmable thermal expansion. <i>Additive Manufacturing</i> , 2021, 47, 102338.	3.0	8
66	Inactivation of Ricin Toxin by Nanosecond Pulsed Electric Fields Including Evidences from Cell and Animal Toxicity. <i>Scientific Reports</i> , 2016, 6, 18781.	3.3	7
67	An improved time integration scheme based on uniform cubic B-splines and its application in structural dynamics. <i>Applied Mathematics and Mechanics (English Edition)</i> , 2017, 38, 889-908.	3.6	6
68	Experimental and numerical investigation of Long Glass Fiber Reinforced Polypropylene composite and application in automobile components. <i>Transport</i> , 2017, , 1-9.	1.2	6
69	Modeling the temperature-dependent viscoelastic behavior of glass fabric with binder in the compaction process. <i>Polymer Composites</i> , 2021, 42, 3038-3050.	4.6	6
70	Mechanical behavior of anti-oxidation coatings on C/C composites at elevated temperature: An in-situ indentation study. <i>Ceramics International</i> , 2020, 46, 6628-6633.	4.8	3
71	Modelling the viscoelastic compaction behavior of 3D stitched carbon fabric with different stitching parameters. <i>Composites Communications</i> , 2020, 21, 100410.	6.3	3
72	Characterization of nesting effects on compression processes for plain woven fabrics in composites manufacturing. <i>Journal of Reinforced Plastics and Composites</i> , 2017, 36, 1503-1513.	3.1	2

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73	Viscoelastic Modeling of Responses in the Whole Compaction Process for Woven Fiber Reinforcements. International Journal of Applied Mechanics, 2018, 10, 1850019.	2.2	2
74	Surface preoxidation to improve dispersibility of zirconium diboride in aqueous medium. Advances in Applied Ceramics, 2014, 113, 311-314.	1.1	1
75	A Viscoelastic Model of Recovery Behaviors in Preforming Process for Carbon Fiber Fabrics with Binder. International Journal of Applied Mechanics, 2018, 10, 1850111.	2.2	1
76	On direct weight inverse approach for identifying composite parameters based on two-way TrumpetNets. Composite Structures, 2022, 286, 115251.	5.8	1
77	Rapid allergen inactivation using atmospheric pressure cold plasma. , 2014, , .		0
78	Integrated Lightweight Composites and Structures with Multifunctional Properties for Engineering Application. Advances in Materials Science and Engineering, 2018, 2018, 1-2.	1.8	0