

# Chao Zhang

## List of Publications by Year in descending order

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80  
papers

2,652  
citations

218677

26  
h-index

197818

49  
g-index

80  
all docs

80  
docs citations

80  
times ranked

1747  
citing authors

#	ARTICLE	IF	CITATIONS
1	Coupled mechanical-electrical-thermal modeling for short-circuit prediction in a lithium-ion cell under mechanical abuse. <i>Journal of Power Sources</i> , 2015, 290, 102-113.	7.8	184
2	Progressive damage simulation of triaxially braided composite using a 3D meso-scale finite element model. <i>Composite Structures</i> , 2015, 125, 104-116.	5.8	150
3	Damage and failure mechanism of thin composite laminates under low-velocity impact and compression-after-impact loading conditions. <i>Composites Part B: Engineering</i> , 2019, 163, 642-654.	12.0	144
4	Assessment of failure criteria and damage evolution methods for composite laminates under low-velocity impact. <i>Composite Structures</i> , 2019, 207, 727-739.	5.8	139
5	Constitutive behavior and progressive mechanical failure of electrodes in lithium-ion batteries. <i>Journal of Power Sources</i> , 2017, 357, 126-137.	7.8	133
6	An experimental and numerical investigation on low-velocity impact damage and compression-after-impact behavior of composite laminates. <i>Composites Part B: Engineering</i> , 2019, 167, 329-341.	12.0	114
7	Crushing behavior and optimization of sheet-based 3D periodic cellular structures. <i>Composites Part B: Engineering</i> , 2020, 182, 107565.	12.0	109
8	A representative-sandwich model for simultaneously coupled mechanical-electrical-thermal simulation of a lithium-ion cell under quasi-static indentation tests. <i>Journal of Power Sources</i> , 2015, 298, 309-321.	7.8	106
9	In-plane crashworthiness of bio-inspired hierarchical honeycombs. <i>Composite Structures</i> , 2018, 192, 516-527.	5.8	95
10	Mechanical characterization and modeling for anodes and cathodes in lithium-ion batteries. <i>Journal of Power Sources</i> , 2018, 392, 265-273.	7.8	85
11	A multi-scale modeling framework for impact damage simulation of triaxially braided composites. <i>Composites Part A: Applied Science and Manufacturing</i> , 2018, 110, 113-125.	7.6	84
12	Meso-scale failure modeling of single layer triaxial braided composite using finite element method. <i>Composites Part A: Applied Science and Manufacturing</i> , 2014, 58, 36-46.	7.6	67
13	Modeling the transverse tensile and compressive failure behavior of triaxially braided composites. <i>Composites Science and Technology</i> , 2019, 172, 96-107.	7.8	65
14	Mechanical integrity of 18650 lithium-ion battery module: Packing density and packing mode. <i>Engineering Failure Analysis</i> , 2018, 91, 315-326.	4.0	62
15	Design optimization of a novel bio-inspired 3D porous structure for crashworthiness. <i>Composite Structures</i> , 2021, 255, 112897.	5.8	56
16	Experimental and FEM study of thermal cycling induced microcracking in carbon/epoxy triaxial braided composites. <i>Composites Part A: Applied Science and Manufacturing</i> , 2013, 46, 34-44.	7.6	54
17	Micromechanical Modeling of Fiber-Reinforced Composites with Statistically Equivalent Random Fiber Distribution. <i>Materials</i> , 2016, 9, 624.	2.9	54
18	Kinetic study of the novolac resin curing process using model fitting and model-free methods. <i>Thermochimica Acta</i> , 2011, 523, 63-69.	2.7	53

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19	Loading rate dependency of Mode I interlaminar fracture toughness for unidirectional composite laminates. <i>Composites Science and Technology</i> , 2018, 167, 215-223.	7.8	52
20	Rate-dependent tensile failure behavior of short fiber reinforced PEEK. <i>Composites Part B: Engineering</i> , 2018, 136, 187-196.	12.0	51
21	Modeling strategy for progressive failure prediction in lithium-ion batteries under mechanical abuse. <i>ETransportation</i> , 2021, 7, 100098.	14.8	49
22	A meso-scale finite element model for simulating free-edge effect in carbon/epoxy textile composite. <i>Mechanics of Materials</i> , 2014, 76, 1-19.	3.2	43
23	Analytical Model and Numerical Analysis of the Elastic Behavior of Triaxial Braided Composites. <i>Journal of Aerospace Engineering</i> , 2014, 27, 473-483.	1.4	42
24	Coupled Mechanical–Electrochemical–Thermal Study on the Short-Circuit Mechanism of Lithium-Ion Batteries under Mechanical Abuse. <i>Journal of the Electrochemical Society</i> , 2020, 167, 120501.	2.9	39
25	Free-edge effect on the effective stiffness of single-layer triaxially braided composite. <i>Composites Science and Technology</i> , 2015, 107, 145-153.	7.8	35
26	The dynamic crack propagation behavior of mode I interlaminar crack in unidirectional carbon/epoxy composites. <i>Engineering Fracture Mechanics</i> , 2019, 215, 65-82.	4.3	29
27	Annealing free tin oxide electron transport layers for flexible perovskite solar cells. <i>Nano Energy</i> , 2022, 94, 106919.	16.0	29
28	Effect of fiber reinforcement and fabrication process on the dynamic compressive behavior of PEEK composites. <i>International Journal of Mechanical Sciences</i> , 2019, 155, 170-177.	6.7	27
29	An elasto-plastic solution for channel cracking of brittle coating on polymer substrate. <i>International Journal of Solids and Structures</i> , 2017, 120, 125-136.	2.7	25
30	Strain effect on the performance of amorphous silicon and perovskite solar cells. <i>Solar Energy</i> , 2018, 163, 243-250.	6.1	23
31	Predicting the tensile and compressive failure behavior of angle-ply spread tow woven composites. <i>Composite Structures</i> , 2020, 234, 111701.	5.8	23
32	A new analytical method for progressive failure analysis of two-dimensional triaxially braided composites. <i>Composites Science and Technology</i> , 2020, 186, 107936.	7.8	23
33	A numerical study of occupant responses and injuries in vehicular crashes into roadside barriers based on finite element simulations. <i>Advances in Engineering Software</i> , 2015, 90, 22-40.	3.8	21
34	The electro-mechanical behavior of conductive filler reinforced polymer composite undergone large deformation: A combined numerical-analytical study. <i>Composites Part B: Engineering</i> , 2018, 133, 185-192.	12.0	21
35	Buckling Sensitivity of Tow-Steered Plates Subjected to Multiscale Defects by High-Order Finite Elements and Polynomial Chaos Expansion. <i>Materials</i> , 2021, 14, 2706.	2.9	21
36	A constitutive model of aluminum foam for crash simulations. <i>International Journal of Non-Linear Mechanics</i> , 2017, 90, 124-136.	2.6	20

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37	Effects of loading rate and loading direction on the compressive failure behavior of a 2D triaxially braided composite. <i>International Journal of Impact Engineering</i> , 2021, 156, 103928.	5.0	18
38	Understanding the critical role of boundary conditions in meso-scale finite element simulation of braided composites. <i>Advanced Composites and Hybrid Materials</i> , 2022, 5, 39-49.	21.1	17
39	Theoretical prediction for effective properties and progressive failure of textile composites: a generalized multi-scale approach. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2021, 37, 1222-1244.	3.4	17
40	Experimental and numerical study on tensile failure behavior of bionic suture joints. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2019, 92, 40-49.	3.1	15
41	On the impact failure behavior of triaxially braided composites subjected to metallic plate projectile. <i>Composites Part B: Engineering</i> , 2020, 186, 107816.	12.0	15
42	Size-dependency of the transverse-tensile failure behavior for triaxially braided composites. <i>Composites Science and Technology</i> , 2021, 206, 108672.	7.8	15
43	A comparison study on the impact failure behavior of laminate and woven composites with consideration of strain rate effect and impact attitude. <i>Thin-Walled Structures</i> , 2021, 164, 107843.	5.3	15
44	Numerical Study of the Damage Behavior of Carbon Fiber/Glass Fiber Hybrid Composite Laminates under Low-velocity Impact. <i>Fibers and Polymers</i> , 2020, 21, 2873-2887.	2.1	14
45	Numerical Analysis of Free-Edge Effect on Size-Influenced Mechanical Properties of Single-Layer Triaxially Braided Composites. <i>Applied Composite Materials</i> , 2014, 21, 841-859.	2.5	13
46	Crashworthiness optimization of bio-inspired hierarchical honeycomb under axial loading. <i>International Journal of Crashworthiness</i> , 2021, 26, 26-37.	1.9	13
47	Enabling rapid fatigue life prediction of short carbon fiber reinforced polyether-ether-ketone using a novel energy dissipation-based model. <i>Composite Structures</i> , 2021, 272, 114227.	5.8	13
48	Parametric Study on the Safety Behavior of Mechanically Induced Short Circuit for Lithium-Ion Pouch Batteries. <i>Journal of Electrochemical Energy Conversion and Storage</i> , 2021, 18, .	2.1	13
49	Effect of fiber architecture on the impact resistance of composite panels subjected to metallic projectile. <i>Composite Structures</i> , 2021, 273, 114273.	5.8	12
50	The effect of photodegradation on effective properties of polymeric thin films: A micromechanical homogenization approach. <i>International Journal of Engineering Science</i> , 2015, 94, 1-22.	5.0	11
51	Finite Element Study on the Impact Resistance of Laminated and Textile Composites. <i>Polymers</i> , 2019, 11, 1798.	4.5	11
52	Loading rate effect of the interfacial tensile failure behavior in carbon fiber-epoxy composites toughened with ZnO nanowires. <i>Composites Part B: Engineering</i> , 2021, 212, 108676.	12.0	11
53	Tensile behavior of bio-inspired hierarchical suture joint with uniform fractal interlocking design. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2021, 113, 104137.	3.1	9
54	Strain rate dependent mechanical properties of 3D printed polymer materials using the DLP technique. <i>Additive Manufacturing</i> , 2021, 47, 102368.	3.0	9

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55	Time-dependent high-temperature compressive failure behavior of high-silica/boron-phenolic composites modified with boron carbide and talc. <i>Composites Science and Technology</i> , 2022, 221, 109226.	7.8	9
56	Simultaneously Coupled Mechanical-Electrochemical-Thermal Simulation of Lithium-Ion Cells. <i>ECS Transactions</i> , 2016, 72, 9-19.	0.5	8
57	Progressive Failure Simulation of Notched Tensile Specimen for Triaxially-Braided Composites. <i>Materials</i> , 2019, 12, 833.	2.9	7
58	Computational continua method and multilevel-multisite mesh refinement method for multiscale analysis of woven composites laminates. <i>Composite Structures</i> , 2021, 259, 113441.	5.8	7
59	Temperatureâ€dependent interlaminar behavior of unidirectional composite laminates: Property determination and mechanism analysis. <i>Polymer Composites</i> , 2021, 42, 3746-3757.	4.6	7
60	Theoretical predictions on temperatureâ€dependent strength for MAX phases. <i>Journal of the American Ceramic Society</i> , 2021, 104, 5898-5907.	3.8	7
61	Dynamic shear failure behavior of the interfaces in carbon fiber/ZnO nanowire/epoxy resin hierarchical composites. <i>Composites Science and Technology</i> , 2022, 221, 109284.	7.8	7
62	A multi-level and multi-site mesh refinement method for the 2D problems with microstructures. <i>Mechanics of Advanced Materials and Structures</i> , 2021, 28, 1462-1479.	2.6	6
63	Visualization and interpretation of the impact failure behavior of textile composites using a highly efficient Meso-FE model. <i>Composites Communications</i> , 2022, 29, 101004.	6.3	5
64	A three-dimensional stochastic progressive damage simulation model for polymer matrix-based laminate composites. <i>Mechanics of Advanced Materials and Structures</i> , 2022, 29, 633-650.	2.6	4
65	Rate-Dependent Cohesive Models for Dynamic Mode I Interfacial Propagation and Failure of Unidirectional Composite Laminates. <i>Coatings</i> , 2021, 11, 191.	2.6	4
66	Fatigue failure simulation of a double-lap composites-metal bolted joint structure. <i>Mechanics of Advanced Materials and Structures</i> , 2023, 30, 99-113.	2.6	3
67	Numerical and Experimental Study on Deformation and Failure of Trees under High-Velocity Impact Loads. , 2018, , .		2
68	Fragmentation of shells: an analogy with the crack formation in tree bark. <i>Philosophical Magazine Letters</i> , 2020, 100, 294-305.	1.2	2
69	Advanced Materials and Designs for Hydraulic, Earth, and Aerospace Structures. , 2016, , .		1
70	Highly efficient computation method for hazard quantification of uncontained rotor failure. <i>Chinese Journal of Aeronautics</i> , 2020, 33, 1980-1990.	5.3	1
71	Tensile and Compressive Failure Behaviors of Triaxially Braided Composite. , 0, , .		1
72	Experimental Investigation Into the Failure of CFRP T-joints Under Ice Impact and Quasi-static Loadings. , 0, , .		1

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73	Characterization and prediction of the nonlinear creep behavior of 3D-printed polyurethane acrylate. Additive Manufacturing, 2022, 50, 102583.	3.0	1
74	A nonlinear analytical model for tensile failure prediction of pseudo-ductile composite laminates. Thin-Walled Structures, 2022, 179, 109711.	5.3	1
75	Finite Element Modeling of Thermal Cycling Induced Microcracking in Carbon/Epoxy Triaxial Braided Composites. , 2012, , .		0
76	Mesomechanical Simulation of Rate-Dependent Mechanical Behavior for Triaxially Braided Composites. , 2018, , .		0
77	Characterization and Constitutive Model for Temperature and Strain-Rate Dependent Tensile Behavior of Short Carbon Fiber Reinforced PEEK Composites. , 2021, , .		0
78	Virtual Testing of Three-Dimensional Hollow/Porous Braided Composites. , 2017, , 85-107.		0
79	Experimental Study on High-velocity Impact Damage Behavior of Carbon Fiber Reinforced Composite Laminates. , 0, , .		0
80	Analytical Prediction of Tensile Strength Prediction for Two-Dimensional Triaxially Braided Composite. , 0, , .		0