

Ping Zhu

List of Publications by Year in descending order

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76
papers

1,788
citations

279798

23
h-index

315739

38
g-index

76
all docs

76
docs citations

76
times ranked

1185
citing authors

#	ARTICLE	IF	CITATIONS
1	A GAN-based image synthesis method for skin lesion classification. Computer Methods and Programs in Biomedicine, 2020, 195, 105568.	4.7	143
2	Metamodel-based lightweight design of B-pillar with TWB structure via support vector regression. Computers and Structures, 2010, 88, 36-44.	4.4	140
3	Deep generative modeling for mechanistic-based learning and design of metamaterial systems. Computer Methods in Applied Mechanics and Engineering, 2020, 372, 113377.	6.6	117
4	Lightweight design of automotive composite bumper system using modified particle swarm optimizer. Composite Structures, 2016, 140, 630-643.	5.8	114
5	Lightweight Design of Automotive Front Side Rail Based on Robust Optimisation. Thin-Walled Structures, 2007, 45, 670-676.	5.3	74
6	Effects of particle clustering on the tensile properties and failure mechanisms of hollow spheres filled syntactic foams: A numerical investigation by microstructure based modeling. Materials & Design, 2013, 47, 80-89.	5.1	65
7	Concurrent treatment of parametric uncertainty and metamodeling uncertainty in robust design. Structural and Multidisciplinary Optimization, 2013, 47, 63-76.	3.5	64
8	A method for selecting surrogate models in crashworthiness optimization. Structural and Multidisciplinary Optimization, 2012, 46, 159-170.	3.5	56
9	Metamodeling development for reliability-based design optimization of automotive body structure. Computers in Industry, 2011, 62, 729-741.	9.9	44
10	Multi-scale design of three dimensional woven composite automobile fender using modified particle swarm optimization algorithm. Composite Structures, 2017, 181, 73-83.	5.8	44
11	Use of support vector regression in structural optimization: Application to vehicle crashworthiness design. Mathematics and Computers in Simulation, 2012, 86, 21-31.	4.4	41
12	Experimental study and numerical prediction of tensile strength properties and failure modes of hollow spheres filled syntactic foams. Computational Materials Science, 2012, 63, 232-243.	3.0	41
13	Reliability-based design optimization of composite battery box based on modified particle swarm optimization algorithm. Composite Structures, 2018, 204, 239-255.	5.8	35
14	Data-Driven Topology Optimization With Multiclass Microstructures Using Latent Variable Gaussian Process. Journal of Mechanical Design, Transactions of the ASME, 2021, 143, .	2.9	35
15	Lightweight design of vehicle parameters under crashworthiness using conservative surrogates. Computers in Industry, 2013, 64, 280-289.	9.9	34
16	Numerical analysis of hybrid (bonded/bolted) FRP composite joints: A review. Composite Structures, 2021, 262, 113606.	5.8	31
17	Computational micromechanics-based prediction of the failure of unidirectional composite lamina subjected to transverse and in-plane shear stress states. Journal of Composite Materials, 2020, 54, 3637-3654.	2.4	30
18	Research on prediction method of mechanical properties of open-hole laminated plain woven CFRP composites considering drilling-induced delamination damage. Mechanics of Advanced Materials and Structures, 2021, 28, 2515-2530.	2.6	28

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19	Mechanical cloak via data-driven aperiodic metamaterial design. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2122185119.	7.1	27
20	Identification of the mechanical properties of the carbon fiber and the interphase region based on computational micromechanics and Kriging metamodel. Computational Materials Science, 2014, 95, 172-180.	3.0	26
21	Global sensitivity analysis for the elastic properties of hollow spheres filled syntactic foams using high dimensional model representation method. Computational Materials Science, 2012, 61, 89-98.	3.0	25
22	Data-driven metamaterial design with Laplace-Beltrami spectrum as "shape-DNA". Structural and Multidisciplinary Optimization, 2020, 61, 2613-2628.	3.5	25
23	Improved particle swarm optimization algorithm using design of experiment and data mining techniques. Structural and Multidisciplinary Optimization, 2015, 52, 813-826.	3.5	24
24	Design optimisation of vehicle roof structures: benefits of using multiple surrogates. International Journal of Crashworthiness, 2011, 16, 85-95.	1.9	23
25	Numerical investigation of fiber random distribution on the mechanical properties of yarn in-plain woven carbon fiber-reinforced composite based on a new perturbation algorithm. Journal of Composite Materials, 2018, 52, 755-771.	2.4	23
26	Uncertainty analysis of mechanical properties of plain woven carbon fiber reinforced composite via stochastic constitutive modeling. Composite Structures, 2019, 207, 684-700.	5.8	23
27	A new sampling-based RBDO method via score function with reweighting scheme and application to vehicle designs. Applied Mathematical Modelling, 2015, 39, 4243-4256.	4.2	22
28	Research in failure behaviors of hybrid single lap aluminum-CFRP (plain woven) joints. Thin-Walled Structures, 2021, 161, 107488.	5.3	21
29	Diversity enhanced particle swarm optimization algorithm and its application in vehicle lightweight design. Journal of Mechanical Science and Technology, 2019, 33, 695-709.	1.5	20
30	Response prediction for modified mechanical systems based on in-situ frequency response functions: Theoretical and numerical studies. Journal of Sound and Vibration, 2017, 400, 417-441.	3.9	19
31	An innovative computational framework for the analysis of complex mechanical behaviors of short fiber reinforced polymer composites. Composite Structures, 2021, 277, 114594.	5.8	19
32	Multi-point objective-oriented sequential sampling strategy for constrained robust design. Engineering Optimization, 2015, 47, 287-307.	2.6	18
33	The transfer path analysis method on the use of artificial excitation: Numerical and experimental studies. Applied Acoustics, 2018, 136, 102-112.	3.3	18
34	Crashworthiness-based lightweight design problem via new robust design method considering two sources of uncertainties. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2013, 227, 1381-1391.	2.1	17
35	A parallel boundary search particle swarm optimization algorithm for constrained optimization problems. Structural and Multidisciplinary Optimization, 2018, 58, 1505-1522.	3.5	17
36	An estimation variance reduction-guided adaptive Kriging method for efficient time-variant structural reliability analysis. Mechanical Systems and Signal Processing, 2022, 178, 109322.	8.0	17

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37	Response prediction techniques and case studies of a path blocking system based on Global Transmissibility Direct Transmissibility method. <i>Journal of Sound and Vibration</i> , 2017, 388, 363-388.	3.9	16
38	Data-driven multiscale design of cellular composites with multiclass microstructures for natural frequency maximization. <i>Composite Structures</i> , 2022, 280, 114949.	5.8	16
39	Identification of the interface properties of hollow spheres filled syntactic foams: An inverse strategy combining microstructural modeling with Kriging metamodel. <i>Composites Science and Technology</i> , 2013, 74, 179-185.	7.8	15
40	A system response prediction approach based on global transmissibilities and its relation with transfer path analysis methods. <i>Applied Acoustics</i> , 2017, 123, 29-46.	3.3	15
41	Uncertainty quantification of mechanical properties for three-dimensional orthogonal woven composites. Part II: Multiscale simulation. <i>Composite Structures</i> , 2020, 235, 111764.	5.8	14
42	Relationships between the decoupled and coupled transfer functions: Theoretical studies and experimental validation. <i>Mechanical Systems and Signal Processing</i> , 2018, 98, 936-950.	8.0	13
43	Generalized de-homogenization via sawtooth-function-based mapping and its demonstration on data-driven frequency response optimization. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 395, 114967.	6.6	13
44	Uncertainty quantification of mechanical properties for three-dimensional orthogonal woven composites. Part I: Stochastic reinforcement geometry reconstruction. <i>Composite Structures</i> , 2020, 235, 111763.	5.8	12
45	A Vine Copula-Based Hierarchical Framework for Multiscale Uncertainty Analysis. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2020, 142, .	2.9	11
46	Fatigue failure mechanism analysis and life prediction of short fiber reinforced polymer composites under tension-tension loading. <i>International Journal of Fatigue</i> , 2022, 160, 106880.	5.7	10
47	Application of conservative surrogate to reliability based vehicle design for crashworthiness. <i>Journal of Shanghai Jiaotong University (Science)</i> , 2013, 18, 159-165.	0.9	9
48	An improved OPAX method based on moving multi-band model. <i>Mechanical Systems and Signal Processing</i> , 2019, 122, 321-341.	8.0	9
49	Sensitivity-based adaptive sequential sampling for metamodel uncertainty reduction in multilevel systems. <i>Structural and Multidisciplinary Optimization</i> , 2020, 62, 1473-1496.	3.5	8
50	An improved multi-objective optimization algorithm with mixed variables for automobile engine hood lightweight design. <i>Journal of Mechanical Science and Technology</i> , 2021, 35, 2073-2082.	1.5	8
51	A new multi-fidelity surrogate modelling method for engineering design based on neural network and transfer learning. <i>Engineering Computations</i> , 2022, 39, 2209-2230.	1.4	8
52	Extended Objective-Oriented Sequential Sampling Method for Robust Design of Complex Systems Against Design Uncertainty. , 2012, , .		7
53	Radial fatigue analysis method of steel hub based on partitioned seam weld model and a new pressure distribution regulation. <i>Materials & Design</i> , 2013, 47, 115-124.	5.1	7
54	Hierarchical framework for quantifying multiscale structures of two-dimensional woven carbon fibre-reinforced composites considering geometric variability. <i>Journal of Industrial Textiles</i> , 2018, 48, 802-824.	2.4	7

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55	Generation of random fiber distributions for unidirectional fiber-reinforced composites based on particle swarm optimizer. <i>Polymer Composites</i> , 2019, 40, 1643-1653.	4.6	7
56	An adaptive multi-fidelity approach for design optimization of mesostructure-structure systems. <i>Structural and Multidisciplinary Optimization</i> , 2020, 62, 375-386.	3.5	7
57	Multiscale modeling based failure criterion of injection molded SFRP composites considering skin-core-skin layered microstructure and variable parameters. <i>Composite Structures</i> , 2022, 286, 115277.	5.8	7
58	Prediction of the Elastic Properties of a Plain Woven Carbon Fiber Reinforced Composite with Internal Geometric Variability. <i>Automotive Innovation</i> , 2018, 1, 147-157.	5.1	6
59	Experimental study of in-plane mechanical performance of carbon/glass hybrid woven composite at different strain rates. <i>International Journal of Crashworthiness</i> , 2016, 21, 542-554.	1.9	5
60	Experimental study and modeling of fatigue life prediction of plain weave carbon/polymer composite under constant amplitude loading. <i>Advanced Composite Materials</i> , 2017, 26, 295-320.	1.9	4
61	Progressive damage modelling and experimental investigation of three-dimensional orthogonal woven composites with tilted binder. <i>Journal of Industrial Textiles</i> , 2020, 50, 70-97.	2.4	4
62	Diversity-enhanced particle swarm optimization algorithm based on the group behaviour of social spiders. <i>Engineering Optimization</i> , 2021, 53, 811-829.	2.6	4
63	Sequential Sampling Framework for Metamodeling Uncertainty Reduction in Multilevel Optimization of Hierarchical Systems. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2021, 143, .	2.9	4
64	Global sensitivity analysis of mechanical properties in hybrid single lap aluminum-CFRP (plain woven) joints based on uncertainty quantification. <i>Composite Structures</i> , 2022, 280, 114841.	5.8	4
65	Reliability-based design optimization of 3D orthogonal woven composite automobile shock tower. <i>Journal of Composite Materials</i> , 0, , 002199832110476.	2.4	3
66	A novel energy-based framework for characterizing the strain-softening behavior of CFRP composites using cyclic loading. <i>Polymer Composites</i> , 2022, 43, 2698-2710.	4.6	3
67	Application of a Weighted Average Surrogate to Lightweight Design of Automotive Front Side Rail. , 2010, , .		2
68	Global Sensitivity Analysis for the Elastic Properties of Unidirectional Carbon Fibre Reinforced Composites Based on Metamodels. <i>Polymers and Polymer Composites</i> , 2018, 26, 205-221.	1.9	2
69	Lightweight Design of Three-Dimensional Woven Composite Automobile Shock Tower. , 2018, , .		2
70	Mapping-Based Hierarchical Sensitivity Analysis for Multilevel Systems With Multidimensional Correlations. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2021, 143, .	2.9	2
71	Data-Driven Multiscale Topology Optimization Using Multi-Response Latent Variable Gaussian Process. , 2020, , .		2
72	A general integrated procedure for uncertainty-based design optimization of multilevel systems by hierarchical decomposition framework. <i>Structural and Multidisciplinary Optimization</i> , 2021, 64, 2669-2686.	3.5	1

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73	A novel polynomial chaos expansion-based method for feedback-coupled multidisciplinary design optimization under metamodel uncertainty. <i>Structural and Multidisciplinary Optimization</i> , 2022, 65, .	3.5	1
74	Robust expected violation criterion for constrained robust design problems and its application in automotive lightweight design. <i>Journal of Shanghai Jiaotong University (Science)</i> , 2013, 18, 257-263.	0.9	0
75	CT Image Segmentation Method of Composite Material Based on Improved Watershed Algorithm and U-Net Neural Network Model. <i>Journal of Shanghai Jiaotong University (Science)</i> , 0, , 1.	0.9	0
76	A data-driven self-adaptive parameter tuning framework for composite automobile part optimization design. <i>Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering</i> , 0, , 095440702211104.	1.9	0