

Wei Chen

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/4623483/publications.pdf>

Version: 2024-02-01

215
papers

18,059
citations

26567

56
h-index

13727

129
g-index

216
all docs

216
docs citations

216
times ranked

15391
citing authors

#	ARTICLE	IF	CITATIONS
1	Commentary: The Materials Project: A materials genome approach to accelerating materials innovation. <i>APL Materials</i> , 2013, 1, .	2.2	6,913
2	Sequential Optimization and Reliability Assessment Method for Efficient Probabilistic Design. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2004, 126, 225-233.	1.7	842
3	A Procedure for Robust Design: Minimizing Variations Caused by Noise Factors and Control Factors. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 1996, 118, 478-485.	1.7	484
4	An efficient algorithm for constructing optimal design of computer experiments. <i>Journal of Statistical Planning and Inference</i> , 2005, 134, 268-287.	0.4	474
5	Towards a Better Understanding of Modeling Feasibility Robustness in Engineering Design. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2000, 122, 385-394.	1.7	312
6	Computational microstructure characterization and reconstruction: Review of the state-of-the-art techniques. <i>Progress in Materials Science</i> , 2018, 95, 1-41.	16.0	252
7	A comparative study of uncertainty propagation methods for black-box-type problems. <i>Structural and Multidisciplinary Optimization</i> , 2009, 37, 239-253.	1.7	245
8	An Integrated Framework for Optimization Under Uncertainty Using Inverse Reliability Strategy. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2004, 126, 562-570.	1.7	232
9	Quantification of Model Uncertainty: Calibration, Model Discrepancy, and Identifiability. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2012, 134, .	1.7	218
10	An Approach to Decision-Based Design With Discrete Choice Analysis for Demand Modeling. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2003, 125, 490-497.	1.7	216
11	Level set based robust shape and topology optimization under random field uncertainties. <i>Structural and Multidisciplinary Optimization</i> , 2010, 41, 507-524.	1.7	206
12	Relative Entropy Based Method for Probabilistic Sensitivity Analysis in Engineering Design. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2006, 128, 326.	1.7	189
13	A Variation-Based Method for Product Family Design. <i>Engineering Optimization</i> , 2002, 34, 65-81.	1.5	169
14	Stochastic microstructure characterization and reconstruction via supervised learning. <i>Acta Materialia</i> , 2016, 103, 89-102.	3.8	166
15	Analytical Variance-Based Global Sensitivity Analysis in Simulation-Based Design Under Uncertainty. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2005, 127, 875.	1.7	159
16	Methodology for Managing the Effect of Uncertainty in Simulation-Based Design. <i>AIAA Journal</i> , 2000, 38, 1471-1478.	1.5	144
17	A market-driven approach to product family design. <i>International Journal of Production Research</i> , 2009, 47, 71-104.	4.9	143
18	Microstructural Materials Design Via Deep Adversarial Learning Methodology. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2018, 140, .	1.7	142

#	ARTICLE	IF	CITATIONS
19	Descriptor-based methodology for statistical characterization and 3D reconstruction of microstructural materials. <i>Computational Materials Science</i> , 2014, 85, 206-216.	1.4	137
20	Understanding the Effects of Model Uncertainty in Robust Design With Computer Experiments. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2006, 128, 945-958.	1.7	129
21	Toward a Better Understanding of Model Validation Metrics. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2011, 133, .	1.7	128
22	A better understanding of model updating strategies in validating engineering models. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2009, 198, 1327-1337.	3.4	126
23	A non-stationary covariance-based Kriging method for metamodelling in engineering design. <i>International Journal for Numerical Methods in Engineering</i> , 2007, 71, 733-756.	1.5	123
24	Computational microstructure characterization and reconstruction for stochastic multiscale material design. <i>CAD Computer Aided Design</i> , 2013, 45, 65-76.	1.4	118
25	Enhancing Discrete Choice Demand Modeling for Decision-Based Design. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2005, 127, 514.	1.7	117
26	Deep generative modeling for mechanistic-based learning and design of metamaterial systems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 372, 113377.	3.4	117
27	A new level-set based approach to shape and topology optimization under geometric uncertainty. <i>Structural and Multidisciplinary Optimization</i> , 2011, 44, 1-18.	1.7	115
28	A Transfer Learning Approach for Microstructure Reconstruction and Structure-property Predictions. <i>Scientific Reports</i> , 2018, 8, 13461.	1.6	113
29	Statistical volume element method for predicting microstructureâ€™s constitutive property relations. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2008, 197, 3516-3529.	3.4	112
30	A Descriptor-Based Design Methodology for Developing Heterogeneous Microstructural Materials System. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2014, 136, 051007.	1.7	108
31	A new sparse grid based method for uncertainty propagation. <i>Structural and Multidisciplinary Optimization</i> , 2010, 41, 335-349.	1.7	103
32	Collaborative Reliability Analysis under the Framework of Multidisciplinary Systems Design. <i>Optimization and Engineering</i> , 2005, 6, 63-84.	1.3	102
33	Time-variant reliability assessment through equivalent stochastic process transformation. <i>Reliability Engineering and System Safety</i> , 2016, 152, 166-175.	5.1	101
34	Bayesian Validation of Computer Models. <i>Technometrics</i> , 2009, 51, 439-451.	1.3	100
35	Concurrent topology optimization of multiscale structures with multiple porous materials under random field loading uncertainty. <i>Structural and Multidisciplinary Optimization</i> , 2017, 56, 1-19.	1.7	100
36	A Machine Learning-Based Design Representation Method for Designing Heterogeneous Microstructures. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2015, 137, .	1.7	98

#	ARTICLE	IF	CITATIONS
37	A Most Probable Point-Based Method for Efficient Uncertainty Analysis. <i>Journal of Design and Manufacturing Automation</i> , 2001, 4, 47-66.	0.2	96
38	Machine-Learning-Assisted De Novo Design of Organic Molecules and Polymers: Opportunities and Challenges. <i>Polymers</i> , 2020, 12, 163.	2.0	95
39	Improving Identifiability in Model Calibration Using Multiple Responses. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2012, 134, .	1.7	94
40	A Design-Driven Validation Approach Using Bayesian Prediction Models. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2008, 130, .	1.7	91
41	Uncertainty quantification in multiscale simulation of woven fiber composites. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2018, 338, 506-532.	3.4	90
42	Bayesian Optimization for Materials Design with Mixed Quantitative and Qualitative Variables. <i>Scientific Reports</i> , 2020, 10, 4924.	1.6	88
43	Confidence-based adaptive extreme response surface for time-variant reliability analysis under random excitation. <i>Structural Safety</i> , 2017, 64, 76-86.	2.8	85
44	Highly Efficient Light-Trapping Structure Design Inspired By Natural Evolution. <i>Scientific Reports</i> , 2013, 3, 1025.	1.6	83
45	Lagrangian Coordination for Enhancing the Convergence of Analytical Target Cascading. <i>AIAA Journal</i> , 2006, 44, 2197-2207.	1.5	78
46	A level set approach for optimal design of smart energy harvesters. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2010, 199, 2532-2543.	3.4	77
47	A New Variable-Fidelity Optimization Framework Based on Model Fusion and Objective-Oriented Sequential Sampling. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2008, 130, .	1.7	73
48	Robust design with arbitrary distributions using Gauss-type quadrature formula. <i>Structural and Multidisciplinary Optimization</i> , 2009, 39, 227-243.	1.7	73
49	A Robust Concept Exploration Method for Enhancing Productivity in Concurrent Systems Design. <i>Concurrent Engineering Research and Applications</i> , 1997, 5, 203-217.	2.0	70
50	Incorporating social impact on new product adoption in choice modeling: A case study in green vehicles. <i>Transportation Research, Part D: Transport and Environment</i> , 2014, 32, 421-434.	3.2	67
51	Efficient 3D porous microstructure reconstruction via Gaussian random field and hybrid optimization. <i>Journal of Microscopy</i> , 2013, 252, 135-148.	0.8	66
52	Reliability-Based Design Optimization with Model Bias and Data Uncertainty. <i>SAE International Journal of Materials and Manufacturing</i> , 0, 6, 502-516.	0.3	66
53	An integrated computational intelligence approach to product concept generation and evaluation. <i>Mechanism and Machine Theory</i> , 2006, 41, 567-583.	2.7	65
54	Concurrent treatment of parametric uncertainty and metamodeling uncertainty in robust design. <i>Structural and Multidisciplinary Optimization</i> , 2013, 47, 63-76.	1.7	64

#	ARTICLE	IF	CITATIONS
55	A Latent Variable Approach to Gaussian Process Modeling with Qualitative and Quantitative Factors. <i>Technometrics</i> , 2020, 62, 291-302.	1.3	63
56	Efficient Random Field Uncertainty Propagation in Design Using Multiscale Analysis. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2009, 131, .	1.7	61
57	Computational uncertainty analysis in multiresolution materials via stochastic constitutive theory. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2011, 200, 309-325.	3.4	61
58	Optimizing Latin hypercube design for sequential sampling of computer experiments. <i>Engineering Optimization</i> , 2009, 41, 793-810.	1.5	60
59	Decision-Based Design. , 2013, , .		59
60	Impact of vehicle usage on consumer choice of hybrid electric vehicles. <i>Transportation Research, Part D: Transport and Environment</i> , 2012, 17, 208-214.	3.2	54
61	New validation metrics for models with multiple correlated responses. <i>Reliability Engineering and System Safety</i> , 2014, 127, 1-11.	5.1	50
62	Perspective: NanoMine: A material genome approach for polymer nanocomposites analysis and design. <i>APL Materials</i> , 2016, 4, .	2.2	49
63	Leveraging the nugget parameter for efficient Gaussian process modeling. <i>International Journal for Numerical Methods in Engineering</i> , 2018, 114, 501-516.	1.5	48
64	Toward the development of a quantitative tool for predicting dispersion of nanocomposites under non-equilibrium processing conditions. <i>Journal of Materials Science</i> , 2016, 51, 4238-4249.	1.7	47
65	Multiscale finite element modeling of sheet molding compound (SMC) composite structure based on stochastic mesostructure reconstruction. <i>Composite Structures</i> , 2018, 188, 25-38.	3.1	47
66	Choice Modeling for Usage Context-Based Design. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2012, 134, .	1.7	46
67	Complexity science of multiscale materials via stochastic computations. <i>International Journal for Numerical Methods in Engineering</i> , 2009, 80, 932-978.	1.5	45
68	Materials by Design for Stiff and Tough Hairy Nanoparticle Assemblies. <i>ACS Nano</i> , 2018, 12, 7946-7958.	7.3	45
69	Multi-scale design of three dimensional woven composite automobile fender using modified particle swarm optimization algorithm. <i>Composite Structures</i> , 2017, 181, 73-83.	3.1	44
70	Identifying interphase properties in polymer nanocomposites using adaptive optimization. <i>Composites Science and Technology</i> , 2018, 162, 146-155.	3.8	43
71	Globally Approximate Gaussian Processes for Big Data With Application to Data-Driven Metamaterials Design. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2019, 141, .	1.7	42
72	Utilizing real and statistically reconstructed microstructures for the viscoelastic modeling of polymer nanocomposites. <i>Composites Science and Technology</i> , 2012, 72, 1725-1732.	3.8	40

#	ARTICLE	IF	CITATIONS
73	Enhanced sequential optimization and reliability assessment method for probabilistic optimization with varying design variance. <i>Structure and Infrastructure Engineering</i> , 2006, 2, 261-275.	2.0	37
74	Product Attribute Function Deployment (PAFD) for Decision-Based Conceptual Design. <i>IEEE Transactions on Engineering Management</i> , 2009, 56, 271-284.	2.4	36
75	A hierarchical choice modelling approach for incorporating customer preferences in vehicle package design. <i>International Journal of Product Development</i> , 2009, 8, 228.	0.2	36
76	Characterization and Design of Functional Quasi-Random Nanostructured Materials Using Spectral Density Function. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2017, 139, .	1.7	36
77	A numerical Bayesian-calibrated characterization method for multiscale prepreg preforming simulations with tension-shear coupling. <i>Composites Science and Technology</i> , 2019, 170, 15-24.	3.8	36
78	Weighted stochastic response surface method considering sample weights. <i>Structural and Multidisciplinary Optimization</i> , 2011, 43, 837-849.	1.7	35
79	NanoMine schema: An extensible data representation for polymer nanocomposites. <i>APL Materials</i> , 2018, 6, .	2.2	35
80	Reliability-based design optimization of composite battery box based on modified particle swarm optimization algorithm. <i>Composite Structures</i> , 2018, 204, 239-255.	3.1	35
81	Data-Driven Topology Optimization With Multiclass Microstructures Using Latent Variable Gaussian Process. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2021, 143, .	1.7	35
82	Design for structural flexibility using connected morphable components based topology optimization. <i>Science China Technological Sciences</i> , 2016, 59, 839-851.	2.0	34
83	A Data-Driven Network Analysis Approach to Predicting Customer Choice Sets for Choice Modeling in Engineering Design. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2015, 137, .	1.7	33
84	Multimodel Fusion Based Sequential Optimization. <i>AIAA Journal</i> , 2017, 55, 241-254.	1.5	33
85	Robust topology optimization of multi-material lattice structures under material and load uncertainties. <i>Frontiers of Mechanical Engineering</i> , 2019, 14, 141-152.	2.5	33
86	Mining structureâ€“property relationships in polymer nanocomposites using data driven finite element analysis and multi-task convolutional neural networks. <i>Molecular Systems Design and Engineering</i> , 2020, 5, 962-975.	1.7	33
87	Integrated Bayesian Hierarchical Choice Modeling to Capture Heterogeneous Consumer Preferences in Engineering Design. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2010, 132, .	1.7	31
88	Objective-Oriented Sequential Sampling for Simulation Based Robust Design Considering Multiple Sources of Uncertainty. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2013, 135, .	1.7	31
89	Integrating Bayesian Calibration, Bias Correction, and Machine Learning for the 2014 Sandia Verification and Validation Challenge Problem. <i>Journal of Verification, Validation and Uncertainty Quantification</i> , 2016, 1, .	0.3	31
90	Optimal Experimental Design of Human Appraisals for Modeling Consumer Preferences in Engineering Design. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2009, 131, .	1.7	30

#	ARTICLE	IF	CITATIONS
91	Target Exploration for Disconnected Feasible Regions in Enterprise-Driven Multilevel Product Design. AIAA Journal, 2006, 44, 67-77.	1.5	29
92	Modeling customer preferences using multidimensional network analysis in engineering design. Design Science, 2016, 2, .	1.1	28
93	Multidisciplinary Statistical Sensitivity Analysis Considering Both Aleatory and Epistemic Uncertainties. AIAA Journal, 2016, 54, 1326-1338.	1.5	28
94	A preposterior analysis to predict identifiability in the experimental calibration of computer models. IIE Transactions, 2016, 48, 75-88.	2.1	28
95	Uncertainty propagation of frequency response functions using a multi-output Gaussian Process model. Computers and Structures, 2019, 217, 1-17.	2.4	28
96	A Deep Adversarial Learning Methodology for Designing Microstructural Material Systems. , 2018, , .		27
97	Connected morphable components-based multiscale topology optimization. Frontiers of Mechanical Engineering, 2019, 14, 129-140.	2.5	27
98	Mechanical cloak via data-driven aperiodic metamaterial design. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2122185119.	3.3	27
99	Enhanced probabilistic analytical target cascading with application to multi-scale design. Engineering Optimization, 2010, 42, 581-592.	1.5	26
100	Stochastic Reassembly Strategy for Managing Information Complexity in Heterogeneous Materials Analysis and Design. Journal of Mechanical Design, Transactions of the ASME, 2013, 135, .	1.7	26
101	Microstructure reconstruction and structural equation modeling for computational design of nanodielectrics. Integrating Materials and Manufacturing Innovation, 2015, 4, 209-234.	1.2	26
102	Nonhierarchical multi-model fusion using spatial random processes. International Journal for Numerical Methods in Engineering, 2016, 106, 503-526.	1.5	26
103	Stochastic Constitutive Model of Isotropic Thin Fiber Networks Based on Stochastic Volume Elements. Materials, 2019, 12, 538.	1.3	26
104	Featureless adaptive optimization accelerates functional electronic materials design. Applied Physics Reviews, 2020, 7, .	5.5	26
105	Understanding and modelling heterogeneity of human preferences for engineering design. Journal of Engineering Design, 2011, 22, 583-601.	1.1	25
106	Solution Processing Dependent Bulk Heterojunction Nanomorphology of P3HT/PCBM Thin Films. ACS Applied Materials & Interfaces, 2019, 11, 17056-17067.	4.0	25
107	Data-driven metamaterial design with Laplace-Beltrami spectrum as "shape-DNA". Structural and Multidisciplinary Optimization, 2020, 61, 2613-2628.	1.7	25
108	Improved particle swarm optimization algorithm using design of experiment and data mining techniques. Structural and Multidisciplinary Optimization, 2015, 52, 813-826.	1.7	24

#	ARTICLE	IF	CITATIONS
109	Design of Non-Deterministic Quasi-random Nanophotonic Structures Using Fourier Space Representations. <i>Scientific Reports</i> , 2017, 7, 3752.	1.6	24
110	Computational analysis of particle reinforced viscoelastic polymer nanocomposites – statistical study of representative volume element. <i>Journal of the Mechanics and Physics of Solids</i> , 2018, 114, 55-74.	2.3	24
111	Polymer Nanocomposite Data: Curation, Frameworks, Access, and Potential for Discovery and Design. <i>ACS Macro Letters</i> , 2020, 9, 1086-1094.	2.3	24
112	Quantifying uncertainties in the microvascular transport of nanoparticles. <i>Biomechanics and Modeling in Mechanobiology</i> , 2014, 13, 515-526.	1.4	23
113	A Multiscale Design Methodology for Hierarchical Systems With Random Field Uncertainty. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2010, 132, .	1.7	22
114	A generalized uncertainty propagation criterion from benchmark studies of microstructured material systems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2013, 254, 271-291.	3.4	22
115	Transfer Learned Designer Polymers For Organic Solar Cells. <i>Journal of Chemical Information and Modeling</i> , 2021, 61, 134-142.	2.5	22
116	A Most Probable Point-Based Method for Efficient Uncertainty Analysis. <i>Journal of Design and Manufacturing Automation</i> , 2001, 1, 47-65.	0.2	22
117	Systematic coarse-graining of epoxy resins with machine learning-informed energy renormalization. <i>Npj Computational Materials</i> , 2021, 7, .	3.5	22
118	Data-driven and topological design of structural metamaterials for fracture resistance. <i>Extreme Mechanics Letters</i> , 2022, 50, 101528.	2.0	22
119	IH-GAN: A conditional generative model for implicit surface-based inverse design of cellular structures. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 396, 115060.	3.4	22
120	Multiresponse and Multistage Metamodeling Approach for Design Optimization. <i>AIAA Journal</i> , 2009, 47, 206-218.	1.5	21
121	A Spatial-Random-Process Based Multidisciplinary System Uncertainty Propagation Approach With Model Uncertainty. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2015, 137, .	1.7	21
122	Composition and processing dependent miscibility of P3HT and PCBM in organic solar cells by coarse-grained molecular simulations. <i>Computational Materials Science</i> , 2018, 155, 112-115.	1.4	21
123	Stochastic reconstruction and microstructure modeling of SMC chopped fiber composites. <i>Composite Structures</i> , 2018, 200, 153-164.	3.1	21
124	A Hierarchical Statistical Sensitivity Analysis Method for Multilevel Systems With Shared Variables. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2010, 132, .	1.7	20
125	A Spectral Density Function Approach for Active Layer Design of Organic Photovoltaic Cells. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2018, 140, .	1.7	20
126	Effect of polydispersity on the bulk-heterojunction morphology of P3HT:PCBM solar cells. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2019, 57, 895-903.	2.4	20

#	ARTICLE	IF	CITATIONS
127	Designing anisotropic microstructures with spectral density function. Computational Materials Science, 2020, 179, 109559.	1.4	20
128	METASET: Exploring Shape and Property Spaces for Data-Driven Metamaterials Design. Journal of Mechanical Design, Transactions of the ASME, 2021, 143, .	1.7	20
129	Topology optimization and fabrication of low frequency vibration energy harvesting microdevices. Smart Materials and Structures, 2015, 24, 025005.	1.8	19
130	Analyzing and Predicting Heterogeneous Customer Preferences in China's Auto Market Using Choice Modeling and Network Analysis. SAE International Journal of Materials and Manufacturing, 0, 8, 668-677.	0.3	19
131	A Hierarchical Statistical Sensitivity Analysis Method for Complex Engineering Systems Design. Journal of Mechanical Design, Transactions of the ASME, 2008, 130, .	1.7	18
132	Reduction of Epistemic Model Uncertainty in Simulation-Based Multidisciplinary Design. Journal of Mechanical Design, Transactions of the ASME, 2016, 138, .	1.7	18
133	Predicting the breakdown strength and lifetime of nanocomposites using a multi-scale modeling approach. Journal of Applied Physics, 2017, 122, 065101.	1.1	18
134	Predicting product co-consideration and market competitions for technology-driven product design: aNetwork-based approach. Design Science, 2018, 4, .	1.1	18
135	Data Centric Design: A New Approach to Design of Microstructural Material Systems. Engineering, 2022, 10, 89-98.	3.2	18
136	Characterization of the Optical Properties of Turbid Media by Supervised Learning of Scattering Patterns. Scientific Reports, 2017, 7, 15259.	1.6	17
137	A Network-Based Approach to Modeling and Predicting Product Coconsideration Relations. Complexity, 2018, 2018, 1-14.	0.9	17
138	Input Mapping for Model Calibration with Application to Wing Aerodynamics. AIAA Journal, 2019, 57, 2734-2745.	1.5	17
139	The archetype-genome exemplar in molecular dynamics and continuum mechanics. Computational Mechanics, 2014, 53, 687-737.	2.2	16
140	Some Metrics and a Bayesian Procedure for Validating Predictive Models in Engineering Design. , 2006, , .		16
141	Data-driven multiscale design of cellular composites with multiclass microstructures for natural frequency maximization. Composite Structures, 2022, 280, 114949.	3.1	16
142	Data centric nanocomposites design <i>via</i> mixed-variable Bayesian optimization. Molecular Systems Design and Engineering, 2020, 5, 1376-1390.	1.7	15
143	Investigating the effect of surface modification on the dispersion process of polymer nanocomposites. Nanocomposites, 2020, 6, 111-124.	2.2	15
144	A numerical study of the overall stability of flexible giant crane booms. Journal of Constructional Steel Research, 2015, 105, 12-27.	1.7	14

#	ARTICLE	IF	CITATIONS
145	Elasto-morphology of P3HT:PCBM bulk heterojunction organic solar cells. <i>Soft Matter</i> , 2020, 16, 6743-6751.	1.2	14
146	Stochastic nonlinear analysis of unidirectional fiber composites using image-based microstructural uncertainty quantification. <i>Composite Structures</i> , 2021, 260, 113470.	3.1	13
147	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.	3.4	13
148	Two-Stage Modeling of Customer Choice Preferences in Engineering Design Using Bipartite Network Analysis. , 2017, , .		12
149	Data-Centric Mixed-Variable Bayesian Optimization for Materials Design. , 2019, , .		12
150	Microstructure-guided deep material network for rapid nonlinear material modeling and uncertainty quantification. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 398, 115197.	3.4	12
151	Determination of ranged sets of design specifications by incorporating design-space heterogeneity. <i>Engineering Optimization</i> , 2008, 40, 1011-1029.	1.5	11
152	Examination of customer satisfaction surveys in choice modelling to support engineering design. <i>Journal of Engineering Design</i> , 2011, 22, 669-687.	1.1	11
153	A System Uncertainty Propagation Approach With Model Uncertainty Quantification in Multidisciplinary Design. , 2014, , .		11
154	Topology optimization for light-trapping structure in solar cells. <i>Structural and Multidisciplinary Optimization</i> , 2014, 50, 367-382.	1.7	11
155	Enhanced Gaussian Process Metamodeling and Collaborative Optimization for Vehicle Suspension Design Optimization. , 2017, , .		11
156	Analyzing Customer Preference to Product Optional Features in Supporting Product Configuration. <i>SAE International Journal of Materials and Manufacturing</i> , 2017, 10, 320-332.	0.3	11
157	Forecasting Technological Impacts on Customersâ€™ Co-Consideration Behaviors: A Data-Driven Network Analysis Approach. , 2016, , .		10
158	Enhanced Collaborative Optimization Using Alternating Direction Method of Multipliers. <i>Structural and Multidisciplinary Optimization</i> , 2018, 58, 1571-1588.	1.7	10
159	A New Sparse Grid Based Method for Uncertainty Propagation. , 2009, , .		9
160	A Hybrid Approach to 3D Porous Microstructure Reconstruction via Gaussian Random Field. , 2012, , .		9
161	SURROGATE PREPOSTERIOR ANALYSES FOR PREDICTING AND ENHANCING IDENTIFIABILITY IN MODEL CALIBRATION. , 2015, 5, 341-359.		9
162	New Metrics for Validation of Data-Driven Random Process Models in Uncertainty Quantification. <i>Journal of Verification, Validation and Uncertainty Quantification</i> , 2016, 1, .	0.3	9

#	ARTICLE	IF	CITATIONS
163	Rethinking interphase representations for modeling viscoelastic properties for polymer nanocomposites. <i>Materialia</i> , 2019, 6, 100277.	1.3	9
164	Maximizing Solar Energy Utilization through Multicriteria Pareto Optimization of Energy Harvesting and Regulating Smart Windows. <i>Cell Reports Physical Science</i> , 2020, 1, 100108.	2.8	9
165	Modeling Spatiotemporal Heterogeneity of Customer Preferences in Engineering Design. , 2018, , .		8
166	Multi-Model Bayesian Optimization for Simulation-Based Design. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2021, 143, .	1.7	8
167	A mode tracking method in modal metamodeling for structures with clustered eigenvalues. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 369, 113174.	3.4	7
168	Machine learned metaheuristic optimization of the bulk heterojunction morphology in P3HT:PCBM thin films. <i>Computational Materials Science</i> , 2021, 187, 110119.	1.4	7
169	Scalable Adaptive Batch Sampling in Simulation-Based Design With Heteroscedastic Noise. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2021, 143, .	1.7	7
170	Descriptor-Based Methodology for Designing Heterogeneous Microstructural Materials System. , 2013, , .		6
171	Stability-ensured topology optimization of boom structures with volume and stress considerations. <i>Structural and Multidisciplinary Optimization</i> , 2017, 55, 493-512.	1.7	6
172	Scalable Gaussian Processes for Data-Driven Design Using Big Data With Categorical Factors. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2022, 144, .	1.7	6
173	Integration of Normative Decision-Making and Batch Sampling for Global Metamodeling. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2020, 142, .	1.7	6
174	Dynamic Control of Plasmonic Localization by Inverse Optimization of Spatial Phase Modulation. <i>ACS Photonics</i> , 2022, 9, 351-359.	3.2	6
175	Remixing functionally graded structures: data-driven topology optimization with multiclass shape blending. <i>Structural and Multidisciplinary Optimization</i> , 2022, 65, .	1.7	6
176	Updating Predictive Models: Calibration, Bias Correction and Identifiability. , 2010, , .		5
177	Towards A Better Understanding of Model Validation Metrics. , 2010, , .		5
178	Microstructure Reconstruction for Stochastic Multiscale Material Design. , 2011, , .		5
179	A Multidimensional Network Approach for Modeling Customer-Product Relations in Engineering Design. , 2015, , .		5
180	A Spectral Density Function Approach for Design of Organic Photovoltaic Cells. , 2018, , .		5

#	ARTICLE	IF	CITATIONS
181	A Choice Modeling Approach for Usage Context-Based Design. , 2013, , 255-285.		5
182	A New Variable Fidelity Optimization Framework Based on Model Fusion and Objective-Oriented Sequential Sampling. , 2007, , 699.		4
183	A Multiscale Design Approach With Random Field Representation of Material Uncertainty. , 2008, , .		4
184	An integrated computational materials engineering method for woven carbon fiber composites preforming process. AIP Conference Proceedings, 2016, , .	0.3	4
185	A modified particle swarm optimisation algorithm and its application in vehicle lightweight design. International Journal of Vehicle Design, 2017, 73, 116.	0.1	4
186	Modeling Multi-Year Customersâ€™ Considerations and Choices in Chinaâ€™s Auto Market Using Two-Stage Bipartite Network Analysis. Networks and Spatial Economics, 2021, 21, 365-385.	0.7	4
187	A Machine Learning-Based Design Representation Method for Designing Heterogeneous Microstructures. , 2014, , .		4
188	A Graph Neural Network Approach for Product Relationship Prediction. , 2021, , .		4
189	Designing active layer of organic solar cells using multi-fidelity molecular simulations and spectral density function. Computational Materials Science, 2022, 211, 111491.	1.4	4
190	Level Set Based Robust Shape and Topology Optimization Under Random Field Uncertainties. , 2009, , .		3
191	A New Weighted Stochastic Response Surface Method for Uncertainty Propagation. , 2010, , .		3
192	Incorporating Social Impact on New Product Adoption in Choice Modeling: A Case Study in Green Vehicles. , 2012, , .		3
193	Elongated Nanodomains and Molecular Intermixing Induced Doping in Organic Photovoltaic Active Layers with Electric Field Treatment. ACS Applied Polymer Materials, 2020, 2, 335-341.	2.0	3
194	Multiscale simulation of fiber composites with spatially varying uncertainties. , 2020, , 355-384.		3
195	Fundamentals of Analytical Techniques for Modeling Consumer Preferences and Choices. , 2013, , 35-77.		3
196	A Weighted Statistical Network Modeling Approach to Product Competition Analysis. Complexity, 2022, 2022, 1-16.	0.9	3
197	Bayesian Calibration of Performance Degradation in a Gas Turbine-Driven Compressor Unit for Prognosis Health Management. Journal of Engineering for Gas Turbines and Power, 2022, 144, .	0.5	3
198	A Decision-Based Design Approach to Product Family Design. , 2013, , 287-317.		2

#	ARTICLE	IF	CITATIONS
199	Robust Multi-material Topology Optimization for Lattice Structure Under Material Uncertainties. , 2018, , 1110-1123.		2
200	Materials Informatics and Data System for Polymer Nanocomposites Analysis and Design. , 2020, , 65-125.		2
201	Data-Driven Multiscale Topology Optimization Using Multi-Response Latent Variable Gaussian Process. , 2020, , .		2
202	A Multiscale Design Methodology for Designing Hierarchical Multiscale Systems Considering Random Field Uncertainty. , 2009, , .		1
203	Impact of interfacial properties on the viscoelastic relaxation of hard-soft block copolymers using finite element analysis. Journal of Materials Research, 2020, 35, 1857-1873.	1.2	1
204	Nonstationarity Analysis of Materials Microstructures via Fisher Score Vectors. Acta Materialia, 2021, 211, 116818.	3.8	1
205	A new sparse grid based method for uncertainty propagation. , 2010, 41, 335.		1
206	Multi-response Approach to Improving Identifiability in Model Calibration. , 2017, , 69-127.		1
207	Data-Driven Dynamic Network Modeling for Analyzing the Evolution of Product Competitions. , 2019, , .		1
208	Data-Driven Multiscale Science for Tire Compounding: Methods and Future Directions. Springer Series in Materials Science, 2021, , 281-312.	0.4	1
209	Special issue on design optimization- industrial applications. Structural and Multidisciplinary Optimization, 2008, 35, 507-507.	1.7	0
210	A Level-Set-Based Multistage Metamodeling Approach for Design Optimization. , 2008, , .		0
211	Multi-response Approach to Improving Identifiability in Model Calibration. , 2015, , 1-59.		0
212	A Modified Particle Swarm Optimization Algorithm with Design of Experiment Technique and a Perturbation Process. , 2015, , .		0
213	Latent variable Gaussian process models: A rank-based analysis and an alternative approach. International Journal for Numerical Methods in Engineering, 2021, 122, 4007-4026.	1.5	0
214	Data Analysis Techniques to Support Demand Model Estimation. , 2013, , 163-202.		0
215	Direct Observations of Uniform Bulk Heterojunctions and the Energy Level Alignments in Nonfullerene Organic Photovoltaic Active Layers. ACS Applied Materials & Interfaces, 2021, 13, 56430-56437.	4.0	0