

Zhen Luo

List of Publications by Year in descending order

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110
papers

5,009
citations

81900

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98798

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110
all docs

110
docs citations

110
times ranked

2111
citing authors

#	ARTICLE	IF	CITATIONS
1	Topology optimization for multi-layer multi-material composite structures. <i>Engineering Optimization</i> , 2023, 55, 773-790.	2.6	3
2	Optimized high thermal insulation by the topological design of hierarchical structures. <i>International Journal of Heat and Mass Transfer</i> , 2022, 186, 122448.	4.8	3
3	Engineering three-dimensional labyrinthine fractal acoustic metamaterials with low-frequency multi-band sound suppression. <i>Journal of the Acoustical Society of America</i> , 2021, 149, 308-319.	1.1	12
4	Topological design of pentamode lattice metamaterials using a ground structure method. <i>Materials and Design</i> , 2021, 202, 109523.	7.0	46
5	Topological design of pentamode metamaterials with additive manufacturing. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 377, 113708.	6.6	24
6	Concurrent design for structures and material microstructures under hybrid uncertainties. <i>Materials and Design</i> , 2021, 205, 109728.	7.0	4
7	A multi-objective optimization of stent geometries. <i>Journal of Biomechanics</i> , 2021, 125, 110575.	2.1	8
8	IgaTop: an implementation of topology optimization for structures using IGA in MATLAB. <i>Structural and Multidisciplinary Optimization</i> , 2021, 64, 1669-1700.	3.5	21
9	Topological Optimization of Auxetic Coronary Stents Considering Hemodynamics. <i>Frontiers in Bioengineering and Biotechnology</i> , 2021, 9, 728914.	4.1	12
10	Design optimization of multifunctional metamaterials with tunable thermal expansion and phononic bandgap. <i>Materials and Design</i> , 2021, 209, 109990.	7.0	35
11	Shape matters—the interaction of gold nanoparticles with model lung surfactant monolayers. <i>Journal of the Royal Society Interface</i> , 2021, 18, 20210402.	3.4	5
12	Topological Design of Multi-Material Compliant Mechanisms with Global Stress Constraints. <i>Micromachines</i> , 2021, 12, 1379.	2.9	5
13	Topology Optimization of Micro-Structured Materials Featured with the Specific Mechanical Properties. <i>International Journal of Computational Methods</i> , 2020, 17, 1850144.	1.3	22
14	Self-supporting topology optimization method for selective laser melting. <i>Additive Manufacturing</i> , 2020, 36, 101506.	3.0	9
15	Design of Self-Expanding Auxetic Stents Using Topology Optimization. <i>Frontiers in Bioengineering and Biotechnology</i> , 2020, 8, 736.	4.1	24
16	A NURBS-based Multi-Material Interpolation (N-MMI) for isogeometric topology optimization of structures. <i>Applied Mathematical Modelling</i> , 2020, 81, 818-843.	4.2	49
17	Design of Auxetic Coronary Stents by Topology Optimization. , 2020, , 17-31.		0
18	Concurrent topology optimization of multiscale composite structures in Matlab. <i>Structural and Multidisciplinary Optimization</i> , 2019, 60, 2621-2651.	3.5	90

#	ARTICLE	IF	CITATIONS
19	A new multiscale topology optimization method for multiphase composite structures of frequency response with level sets. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019, 356, 116-144.	6.6	41
20	Isogeometric Density Field Method for Topology Optimization of Micro-architected Materials. , 2019, , .		0
21	Hilbert fractal acoustic metamaterials with negative mass density and bulk modulus on subwavelength scale. <i>Materials and Design</i> , 2019, 180, 107911.	7.0	41
22	Isogeometric topology optimization for continuum structures using density distribution function. <i>International Journal for Numerical Methods in Engineering</i> , 2019, 119, 991-1017.	2.8	64
23	Topology optimization for auxetic metamaterials based on isogeometric analysis. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019, 352, 211-236.	6.6	107
24	3D Hilbert fractal acoustic metamaterials: low-frequency and multi-band sound insulation. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 195302.	2.8	15
25	Dynamic multiscale topology optimization for multi-regional micro-structured cellular composites. <i>Composite Structures</i> , 2019, 211, 401-417.	5.8	39
26	Robust topology optimization for concurrent design of dynamic structures under hybrid uncertainties. <i>Mechanical Systems and Signal Processing</i> , 2019, 120, 540-559.	8.0	50
27	Topology optimization for multiscale design of porous composites with multi-domain microstructures. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019, 344, 451-476.	6.6	106
28	Level-set topology optimization for robust design of structures under hybrid uncertainties. <i>International Journal for Numerical Methods in Engineering</i> , 2019, 117, 523-542.	2.8	18
29	Space-coiling fractal metamaterial with multi-bandgaps on subwavelength scale. <i>Journal of Sound and Vibration</i> , 2018, 423, 322-339.	3.9	47
30	Non-probabilistic reliability-based topology optimization with multidimensional parallelepiped convex model. <i>Structural and Multidisciplinary Optimization</i> , 2018, 57, 2205-2221.	3.5	42
31	Reliability-Based Topology Optimization for Continuum Structures with Non-probabilistic Uncertainty. , 2018, , 390-395.		1
32	An arbitrary polynomial chaos expansion approach for response analysis of acoustic systems with epistemic uncertainty. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2018, 332, 280-302.	6.6	32
33	Robust topology optimization for cellular composites with hybrid uncertainties. <i>International Journal for Numerical Methods in Engineering</i> , 2018, 115, 695-713.	2.8	29
34	Topology optimization for functionally graded cellular composites with metamaterials by level sets. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2018, 328, 340-364.	6.6	141
35	Robust topology optimization considering load uncertainty based on a semi-analytical method. <i>International Journal of Advanced Manufacturing Technology</i> , 2018, 94, 3537-3551.	3.0	5
36	A new method based on adaptive volume constraint and stress penalty for stress-constrained topology optimization. <i>Structural and Multidisciplinary Optimization</i> , 2018, 57, 1163-1185.	3.5	23

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37	Stress-based multi-material topology optimization of compliant mechanisms. <i>International Journal for Numerical Methods in Engineering</i> , 2018, 113, 1021-1044.	2.8	68
38	Topology optimization for concurrent design of structures with multi-patch microstructures by level sets. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2018, 331, 536-561.	6.6	139
39	An improved parametric level set method for structural frequency response optimization problems. <i>Advances in Engineering Software</i> , 2018, 126, 75-89.	3.8	18
40	Unified polynomial expansion for interval and random response analysis of uncertain structure-acoustic system with arbitrary probability distribution. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2018, 336, 260-285.	6.6	25
41	A new sequential sampling method for constructing the high-order polynomial surrogate models. <i>Engineering Computations</i> , 2018, 35, 529-564.	1.4	14
42	Level-set topology optimization for multimaterial and multifunctional mechanical metamaterials. <i>Engineering Optimization</i> , 2017, 49, 22-42.	2.6	60
43	A new hybrid uncertainty optimization method for structures using orthogonal series expansion. <i>Applied Mathematical Modelling</i> , 2017, 45, 474-490.	4.2	30
44	Topological design optimization of lattice structures to maximize shear stiffness. <i>Advances in Engineering Software</i> , 2017, 112, 211-221.	3.8	54
45	Level-set topology optimization for mechanical metamaterials under hybrid uncertainties. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2017, 319, 414-441.	6.6	91
46	Uncertain dynamic analysis for rigid-flexible mechanisms with random geometry and material properties. <i>Mechanical Systems and Signal Processing</i> , 2017, 85, 487-511.	8.0	35
47	Incremental modeling of a new high-order polynomial surrogate model. <i>Applied Mathematical Modelling</i> , 2016, 40, 4681-4699.	4.2	54
48	Interval uncertain analysis of active hydraulically interconnected suspension system. <i>Advances in Mechanical Engineering</i> , 2016, 8, 168781401664633.	1.6	8
49	Dynamic computation of flexible multibody system with uncertain material properties. <i>Nonlinear Dynamics</i> , 2016, 85, 1231-1254.	5.2	17
50	Topological design for mechanical metamaterials using a multiphase level set method. <i>Structural and Multidisciplinary Optimization</i> , 2016, 54, 937-952.	3.5	21
51	Robust topology optimization for structures under interval uncertainty. <i>Advances in Engineering Software</i> , 2016, 99, 36-48.	3.8	68
52	Integrated design of cellular composites using a level-set topology optimization method. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2016, 309, 453-475.	6.6	72
53	Topological shape optimization of multifunctional tissue engineering scaffolds with level set method. <i>Structural and Multidisciplinary Optimization</i> , 2016, 54, 333-347.	3.5	18
54	The Interval Uncertain Optimization Strategy Based on Chebyshev Meta-model. <i>Springer Proceedings in Mathematics and Statistics</i> , 2015, , 203-216.	0.2	3

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55	A new sampling scheme for developing metamodels with the zeros of Chebyshev polynomials. <i>Engineering Optimization</i> , 2015, 47, 1264-1288.	2.6	18
56	An efficient method for reliability analysis under epistemic uncertainty based on evidence theory and support vector regression. <i>Journal of Engineering Design</i> , 2015, 26, 340-364.	2.3	36
57	Topology optimization of compliant mechanisms using element-free Galerkin method. <i>Advances in Engineering Software</i> , 2015, 85, 61-72.	3.8	21
58	Characteristic analysis of pitch-resistant hydraulically interconnected suspensions for two-axle vehicles. <i>JVC/Journal of Vibration and Control</i> , 2015, 21, 3167-3188.	2.6	17
59	A new methodology for multi-objective multidisciplinary design optimization problems based on game theory. <i>Expert Systems With Applications</i> , 2015, 42, 1602-1612.	7.6	46
60	A new interval uncertain optimization method for structures using Chebyshev surrogate models. <i>Computers and Structures</i> , 2015, 146, 185-196.	4.4	80
61	A multi-material level set-based topology and shape optimization method. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2015, 283, 1570-1586.	6.6	208
62	A new uncertain analysis method and its application in vehicle dynamics. <i>Mechanical Systems and Signal Processing</i> , 2015, 50-51, 659-675.	8.0	114
63	An Element-Free Galerkin Method for Topology Optimization of Micro Compliant Mechanisms. <i>Springer Proceedings in Mathematics and Statistics</i> , 2015, , 217-226.	0.2	0
64	Topological design of compliant smart structures with embedded movable actuators. <i>Smart Materials and Structures</i> , 2014, 23, 045024.	3.5	59
65	Topology optimization of bi-modulus structures using the concept of bone remodeling. <i>Engineering Computations</i> , 2014, 31, 1361-1378.	1.4	7
66	An interval uncertain optimization method for vehicle suspensions using Chebyshev metamodels. <i>Applied Mathematical Modelling</i> , 2014, 38, 3706-3723.	4.2	72
67	Topological shape optimization of microstructural metamaterials using a level set method. <i>Computational Materials Science</i> , 2014, 87, 178-186.	3.0	151
68	Topology optimization of structures using meshless density variable approximants. <i>International Journal for Numerical Methods in Engineering</i> , 2013, 93, 443-464.	2.8	83
69	Constrained State Estimation for Nonlinear Systems with Unknown Input. <i>Circuits, Systems, and Signal Processing</i> , 2013, 32, 2199-2211.	2.0	6
70	An adaptive method for high-resolution topology design. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2013, 29, 840-850.	3.4	13
71	Modified state prediction algorithm based on UKF. <i>Journal of Systems Engineering and Electronics</i> , 2013, 24, 135-140.	2.2	9
72	A Chebyshev interval method for nonlinear dynamic systems under uncertainty. <i>Applied Mathematical Modelling</i> , 2013, 37, 4578-4591.	4.2	214

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73	Robust topology optimisation of bi-modulus structures. CAD Computer Aided Design, 2013, 45, 1159-1169.	2.7	11
74	An uncertain multidisciplinary design optimization method using interval convex models. Engineering Optimization, 2013, 45, 697-718.	2.6	33
75	Interval multi-objective optimisation of structures using adaptive Kriging approximations. Computers and Structures, 2013, 119, 68-84.	4.4	69
76	Interval uncertain method for multibody mechanical systems using Chebyshev inclusion functions. International Journal for Numerical Methods in Engineering, 2013, 95, 608-630.	2.8	169
77	Fault detection for non-linear system with unknown input and state constraints. IET Signal Processing, 2013, 7, 800-806.	1.5	7
78	Modelling and characteristic analysis of tri-axle trucks with hydraulically interconnected suspensions. Vehicle System Dynamics, 2012, 50, 1877-1904.	3.7	43
79	Topology Optimization for Static Shape Control of Piezoelectric Plates With Penalization on Intermediate Actuation Voltage. Journal of Mechanical Design, Transactions of the ASME, 2012, 134, .	2.9	22
80	A numerical study on nonlinear vibration of an inclined cable coupled with the deck in cable-stayed bridges. JVC/Journal of Vibration and Control, 2012, 18, 404-416.	2.6	16
81	Constrained Kalman Filtering with observation losses. , 2012, , .		0
82	Constrained kalman filtering for nonlinear dynamical systems with observation losses. , 2012, , .		0
83	A meshfree level-set method for topological shape optimization of compliant multiphysics actuators. Computer Methods in Applied Mechanics and Engineering, 2012, 223-224, 133-152.	6.6	17
84	Shape morphing of laminated composite structures with photostrictive actuators via topology optimization. Composite Structures, 2011, 93, 406-418.	5.8	30
85	A variational principle and finite element formulation for multi-physics PLZT ceramics. Mechanics Research Communications, 2011, 38, 198-202.	1.8	10
86	Shape Control for Composite Structures of Photostrictive Actuators Using Topology Optimization Method. Advanced Materials Research, 2011, 279, 186-193.	0.3	0
87	Design of Multi-phase Piezoelectric Actuators. Journal of Intelligent Material Systems and Structures, 2010, 21, 1851-1865.	2.5	48
88	A new multi-objective programming scheme for topology optimization of compliant mechanisms. Structural and Multidisciplinary Optimization, 2010, 40, 241-255.	3.5	39
89	Design of Adaptive Cores of Sandwich Structures Using a Compliant Unit Cell Approach and Topology Optimization. Journal of Mechanical Design, Transactions of the ASME, 2010, 132, .	2.9	10
90	Topology optimization for thermo-mechanical compliant actuators using mesh-free methods. Engineering Optimization, 2009, 41, 753-772.	2.6	39

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91	Design of piezoelectric actuators using a multiphase level set method of piecewise constants. Journal of Computational Physics, 2009, 228, 2643-2659.	3.8	133
92	Continuum topology optimization with non-probabilistic reliability constraints based on multi-ellipsoid convex model. Structural and Multidisciplinary Optimization, 2009, 39, 297-310.	3.5	197
93	Shape and topology optimization for electrothermomechanical microactuators using level set methods. Journal of Computational Physics, 2009, 228, 3173-3181.	3.8	37
94	A level set method for structural shape and topology optimization using radial basis functions. Computers and Structures, 2009, 87, 425-434.	4.4	100
95	Design of distributed compliant micromechanisms with an implicit free boundary representation. Structural and Multidisciplinary Optimization, 2008, 36, 607-621.	3.5	12
96	Topology synthesis of geometrically nonlinear compliant mechanisms using meshless methods. Acta Mechanica Solida Sinica, 2008, 21, 51-61.	1.9	7
97	A level set-based parameterization method for structural shape and topology optimization. International Journal for Numerical Methods in Engineering, 2008, 76, 1-26.	2.8	222
98	A level set method for shape and topology optimization of large displacement compliant mechanisms. International Journal for Numerical Methods in Engineering, 2008, 76, 862-892.	2.8	74
99	A semi-implicit level set method for structural shape and topology optimization. Journal of Computational Physics, 2008, 227, 5561-5581.	3.8	111
100	A new level set method for systematic design of hinge-free compliant mechanisms. Computer Methods in Applied Mechanics and Engineering, 2008, 198, 318-331.	6.6	120
101	Shape and topology optimization of compliant mechanisms using a parameterization level set method. Journal of Computational Physics, 2007, 227, 680-705.	3.8	178
102	A new procedure for aerodynamic missile designs using topological optimization approach of continuum structures. Aerospace Science and Technology, 2006, 10, 364-373.	4.8	40
103	Fuzzy tolerance multilevel approach for structural topology optimization. Computers and Structures, 2006, 84, 127-140.	4.4	35
104	Continuum topology optimization for monolithic compliant mechanisms of micro-actuators. Acta Mechanica Solida Sinica, 2006, 19, 58-68.	1.9	7
105	A new hybrid fuzzy-goal programming scheme for multi-objective topological optimization of static and dynamic structures under multiple loading conditions. Structural and Multidisciplinary Optimization, 2006, 31, 26-39.	3.5	31
106	Multiple stiffness topology optimizations of continuum structures. International Journal of Advanced Manufacturing Technology, 2006, 30, 203-214.	3.0	15
107	A Novel Method for Solving Assembly Constraint using Spherical Geometry and Spherical Linkage Mechanism. , 2006, , .		0
108	Design of Monolithic Compliant Mechanisms for Microactuator Using Topology Optimization Schemes. , 2006, , .		1

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109	A Meshless Level Set Method for Shape and Topology Optimization. <i>Advanced Materials Research</i> , 0, 308-310, 1046-1049.	0.3	3
110	Design of Compliant Mechanisms of Distributed Compliance Using a Level-Set Based Topology Optimization Method. <i>Applied Mechanics and Materials</i> , 0, 110-116, 2319-2323.	0.2	1