Geng Dong Cheng

List of Publications by Year
in descending order

120 papers	5,674 citations	81743 39 h-index	79541 73 g-index
125 all docs	125 docs citations	125 times ranked	2696 citing authors

#	Article	IF	Citations
1	Explicit control of 2D and 3D structural complexity by discrete variable topology optimization method. Computer Methods in Applied Mechanics and Engineering, 2022, 389, 114302.	3.4	14
2	Mathematical foundations of FEM-cluster based reduced order analysis method and a spectral analysis algorithm for improving the accuracy. Computational Mechanics, 2022, 69, 1347-1363.	2.2	2
3	Structural topology optimization subject to overhang angle constraint with overhang length relaxation in additive manufacturing. Science China Technological Sciences, 2022, 65, 1213-1231.	2.0	4
4	Structural topology optimization of elastoplastic continuum under shakedown theory. International Journal for Numerical Methods in Engineering, 2022, 123, 4459-4482.	1.5	3
5	A novel primal–dual eigenstress–driven method for shakedown analysis of structures. International Journal for Numerical Methods in Engineering, 2021, 122, 2770-2801.	1.5	6
6	A self-learning finite element extraction system based on reinforcement learning. Artificial Intelligence for Engineering Design, Analysis and Manufacturing: AIEDAM, 2021, 35, 180-208.	0.7	7
7	A diversity metric based on Gaussian process model for diverse and competitive design. Structural and Multidisciplinary Optimization, 2021, 64, 2975-2997.	1.7	5
8	Discrete variable topology optimization for simplified convective heat transfer via sequential approximate integer programming with trust–region. International Journal for Numerical Methods in Engineering, 2021, 122, 5844-5872.	1.5	12
9	Efficient prediction of the effective nonlinear properties of porous material by FEM-Cluster based Analysis (FCA). Computer Methods in Applied Mechanics and Engineering, 2021, 383, 113921.	3.4	11
10	Special issue dedicated to Former Editor-in-Chief Raphael T. Haftka. Structural and Multidisciplinary Optimization, 2021, 64, 2825.	1.7	0
11	Further elaborations on topology optimization via sequential integer programming and Canonical relaxation algorithm and 128-line MATLAB code. Structural and Multidisciplinary Optimization, 2020, 61, 411-431.	1.7	42
12	Discrete variable topology optimization for compliant mechanism design via Sequential Approximate Integer Programming with Trust Region (SAIP-TR). Structural and Multidisciplinary Optimization, 2020, 62, 2851-2879.	1.7	18
13	Vibration reduction of rotating frame structure based on quadratic performance index. Journal of Sound and Vibration, 2020, 485, 115442.	2.1	1
14	A Model accounting for Stiffness Weakening of Curvic Couplings under Various Loading Conditions. Mathematical Problems in Engineering, 2020, 2020, 1-17.	0.6	0
15	The effect of micromechanics models on mechanical property predictions for short fiber composites. Composite Structures, 2020, 244, 112229.	3.1	20
16	Three-dimensional high resolution topology optimization considering additive manufacturing constraints. Additive Manufacturing, 2020, 35, 101224.	1.7	19
17	Sequential kriging–based closure approximations for flow–induced fiber orientation and prediction of composite stiffness. Polymer Composites, 2019, 40, 1748-1761.	2.3	4
18	On the solutions to the Saint–Venant problem of heterogeneous beam-like structures with periodic microstructures. International Journal of Mechanical Sciences, 2019, 163, 105123.	3.6	7

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19	Topology optimization via sequential integer programming and Canonical relaxation algorithm. Computer Methods in Applied Mechanics and Engineering, 2019, 348, 64-96.	3.4	53
20	FEM-Cluster based reduction method for efficient numerical prediction of effective properties of heterogeneous material in nonlinear range. Computer Methods in Applied Mechanics and Engineering, 2019, 348, 157-184.	3.4	44
21	Principle of cluster minimum complementary energy of FEM-cluster-based reduced order method: fast updating the interaction matrix and predicting effective nonlinear properties of heterogeneous material. Computational Mechanics, 2019, 64, 323-349.	2.2	15
22	Clustering discretization methods for generation of material performance databases in machine learning and design optimization. Computational Mechanics, 2019, 64, 281-305.	2.2	74
23	Topology optimization considering overhang constraint in additive manufacturing. Computers and Structures, 2019, 212, 86-100.	2.4	84
24	An adjoint method of sensitivity analysis for residual vibrations of structures subject to impacts. Journal of Sound and Vibration, 2018, 418, 15-35.	2.1	13
25	A two-phase approach based on sequential approximation for reliability-based design optimization. Structural and Multidisciplinary Optimization, 2018, 57, 489-508.	1.7	16
26	The effects of delamination deficiencies on compressive properties of composite grid-stiffened structures. Mechanics of Advanced Materials and Structures, 2018, 25, 901-916.	1.5	3
27	Report of the Workshop Predictive Theoretical, Computational and Experimental Approaches for Additive Manufacturing (WAM 2016). SpringerBriefs in Applied Sciences and Technology, 2018, , .	0.2	0
28	Residual vibration reduction for translation unconstrained or partially unconstrained structures by structural optimization. Computers and Structures, 2018, 210, 12-27.	2.4	5
29	Skew-symmetric Nitsche's formulation in isogeometric analysis: Dirichlet and symmetry conditions, patch coupling and frictionless contact. Computer Methods in Applied Mechanics and Engineering, 2018, 341, 188-220.	3.4	49
30	Two-scale concurrent topology optimization with multiple micro materials based on principal stress orientation. Structural and Multidisciplinary Optimization, 2018, 57, 2093-2107.	1.7	56
31	Topology optimization of damping layers in shell structures subject to impact loads for minimum residual vibration. Journal of Sound and Vibration, 2018, 431, 226-247.	2.1	26
32	Two-Scale Concurrent Topology Optimization with Multiple Micro Materials Based on Principal Stress Direction. , 2018, , 1726-1737.		3
33	Shear stiffness prediction of Reissner–Mindlin plates with periodic microstructures. Mechanics of Advanced Materials and Structures, 2017, 24, 271-286.	1.5	12
34	Adjoint methods of sensitivity analysis for Lyapunov equation. Structural and Multidisciplinary Optimization, 2016, 53, 225-237.	1.7	12
35	Balancing diversity and performance in global optimization. Structural and Multidisciplinary Optimization, 2016, 54, 1093-1105.	1.7	12
36	Special issue dedicated to Founding Editor George Rozvany. Structural and Multidisciplinary Optimization, 2016, 54, 1107-1111.	1.7	0

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37	Two-scale topology design optimization of stiffened or porous plate subject to out-of-plane buckling constraint. Structural and Multidisciplinary Optimization, 2016, 54, 1283-1296.	1.7	36
38	An Innovative Surrogate-Based Searching Method for Reducing Warpage and Cycle Time in Injection Molding. Advances in Polymer Technology, 2016, 35, 288-297.	0.8	12
39	Stiffness design of heterogeneous periodic beam by topology optimization with integration of commercial software. Computers and Structures, 2016, 172, 71-80.	2.4	17
40	Topology optimization of plate structures subject to initial excitations for minimum dynamic performance index. Structural and Multidisciplinary Optimization, 2016, 53, 623-633.	1.7	21
41	Can damping be ignored in transient structural dynamic optimization?. Structural and Multidisciplinary Optimization, 2016, 54, 197-198.	1.7	3
42	Multi-scale concurrent material and structural design under mechanical and thermal loads. Computational Mechanics, 2016, 57, 437-446.	2.2	88
43	On predicting the effective elastic properties of polymer nanocomposites by novel numerical implementation of asymptotic homogenization method. Composite Structures, 2016, 135, 297-305.	3.1	22
44	A new method of shear stiffness prediction of periodic Timoshenko beams. Mechanics of Advanced Materials and Structures, 2016, 23, 670-680.	1.5	11
45	Multi-objective optimization design of injection molding process parameters based on the improved efficient global optimization algorithm and non-dominated sorting-based genetic algorithm. International Journal of Advanced Manufacturing Technology, 2015, 78, 1813-1826.	1.5	52
46	Optimum design of thermally loaded beam-columns for maximum vibration frequency or buckling temperature. International Journal of Solids and Structures, 2015, 66, 20-34.	1.3	7
47	FEM formulation of homogenization method for effective properties of periodic heterogeneous beam and size effect of basic cell in thickness direction. Computers and Structures, 2015, 156, 1-11.	2.4	53
48	Design Optimization of Connection Section for Concentrated Force Diffusion. Mechanics Based Design of Structures and Machines, 2015, 43, 209-231.	3.4	20
49	An identification method for enclosed voids restriction in manufacturability design for additive manufacturing structures. Frontiers of Mechanical Engineering, 2015, 10, 126-137.	2.5	113
50	Novel numerical implementation of asymptotic homogenization method for periodic plate structures. International Journal of Solids and Structures, 2014, 51, 284-292.	1.3	97
51	Integrated size and topology optimization of skeletal structures with exact frequency constraints. Structural and Multidisciplinary Optimization, 2014, 50, 113-128.	1.7	22
52	Analytic solutions of elastically supported Michell trusses. Structural and Multidisciplinary Optimization, 2014, 49, 689-694.	1.7	2
53	Fast Dynamic Analysis of Complicated Beam-Type Structure Based on Reduced Super Beam Model. AIAA Journal, 2014, 52, 952-963.	1.5	5
54	Efficient algorithm for probability-based design optimisation of complex structures and related issues. Structure and Infrastructure Engineering, 2014, 10, 1264-1275.	2.0	0

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55	A confirmation of a conjecture on the existence of symmetric optimal solution under multiple loads. Structural and Multidisciplinary Optimization, 2014, 50, 659-661.	1.7	4
56	Symmetry properties in structural optimization: some extensions. Structural and Multidisciplinary Optimization, 2013, 47, 783-794.	1.7	11
57	Multi-objective concurrent topology optimization of thermoelastic structures composed of homogeneous porous material. Structural and Multidisciplinary Optimization, 2013, 47, 583-597.	1.7	175
58	Novel implementation of homogenization method to predict effective properties of periodic materials. Acta Mechanica Sinica/Lixue Xuebao, 2013, 29, 550-556.	1.5	138
59	Fast dynamic performance optimization of complicated beam-type structures based on two new reduced physical models. Engineering Optimization, 2013, 45, 835-850.	1.5	12
60	Optimum Design of Pile Foundation by Automatic Grouping Genetic Algorithms. ISRN Civil Engineering, 2012, 2012, 1-16.	0.4	16
61	Some symmetry results for optimal solutions in structural optimization. Structural and Multidisciplinary Optimization, 2012, 46, 631-645.	1.7	20
62	Optimum design of band-gap beam structures. International Journal of Solids and Structures, 2012, 49, 3158-3169.	1.3	71
63	On topology optimization of damping layer in shell structures under harmonic excitations. Structural and Multidisciplinary Optimization, 2012, 46, 51-67.	1.7	125
64	A simplified nonlinear dynamic model for the analysis of pipe structures with bolted flange joints. Journal of Sound and Vibration, 2012, 331, 325-344.	2.1	97
65	Singular optimum topology of skeletal structures with frequency constraints by AGGA. Structural and Multidisciplinary Optimization, 2012, 45, 451-466.	1.7	26
66	A general formulation of structural topology optimization for maximizing structural stiffness. Structural and Multidisciplinary Optimization, 2011, 43, 561-572.	1.7	27
67	Discussion on symmetry of optimum topology design. Structural and Multidisciplinary Optimization, 2011, 44, 713-717.	1.7	24
68	Optimal structure design with low thermal directional expansion and high stiffness. Engineering Optimization, 2011, 43, 581-595.	1.5	39
69	STUDY ON TWO SCALE DESIGN OPTIMIZATION OF STRUCTURES AND MATERIALS WITH PERIODIC MICROSTRUCTURE. , 2011, , 195-218.		0
70	Optimum material design of minimum structural compliance under seepage constraint. Structural and Multidisciplinary Optimization, 2010, 41, 575-587.	1.7	17
71	Volume preserving nonlinear density filter based on heaviside functions. Structural and Multidisciplinary Optimization, 2010, 41, 495-505.	1.7	303
72	Memorial to Xuesen Qian. Acta Mechanica Sinica/Lixue Xuebao, 2010, 26, 1-2.	1.5	0

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73	Recent development in structural design and optimization. Acta Mechanica Sinica/Lixue Xuebao, 2010, 26, 807-823.	1.5	158
74	Twenty-five years of excellence: a retrospective glance of Acta Mechanica Sinica. Acta Mechanica Sinica/Lixue Xuebao, 2010, 26, 793-794.	1.5	1
75	Discrete material optimization of vibrating laminated composite plates for minimum sound radiation. International Journal of Solids and Structures, 2010, 47, 2097-2114.	1.3	82
76	Numerical Simulation and Optimization Design on Acoustic Absorbent Lining. , 2010, , .		0
77	Optimum structure with homogeneous optimum cellular material for maximum fundamental frequency. Structural and Multidisciplinary Optimization, 2009, 39, 115-132.	1.7	178
78	Numerical investigations on a new type of energy-absorbing structure based on free inversion of tubes. International Journal of Mechanical Sciences, 2009, 51, 64-76.	3.6	54
79	Optimization Design of Plate on Vibration and Acoustics Based on Finite Element Simulation. , 2009, , .		0
80	Further study on efficiency of sequential approximate programming for probabilistic structural design optimization. Structural and Multidisciplinary Optimization, 2008, 35, 509-522.	1.7	48
81	Concurrent material and structural optimization of hollow plate with truss-like material. Structural and Multidisciplinary Optimization, 2008, 35, 153-163.	1.7	20
82	Optimum structure with homogeneous optimum truss-like material. Computers and Structures, 2008, 86, 1417-1425.	2.4	252
83	A sequential approximate programming strategy for performance-measure-based probabilistic structural design optimization. Structural Safety, 2008, 30, 91-109.	2.8	113
84	Optimum design for energy absorption of bitubal hexagonal columns with honeycomb core. International Journal of Crashworthiness, 2008, 13, 99-107.	1.1	24
85	Design of multi-tubular heat exchangers for optimum efficiency of heat dissipation. Engineering Optimization, 2008, 40, 767-788.	1.5	5
86	Energy absorption of axially compressed thin-walled square tubes with patterns. Thin-Walled Structures, 2007, 45, 737-746.	2.7	129
87	On the efficiency of chaos optimization algorithms for global optimization. Chaos, Solitons and Fractals, 2007, 34, 1366-1375.	2.5	344
88	A comparative study of energy absorption characteristics of foam-filled and multi-cell square columns. International Journal of Impact Engineering, 2007, 34, 1739-1752.	2.4	165
89	Binary discrete method of topology optimization. Applied Mathematics and Mechanics (English) Tj ETQq1 1 0.784314 rgBT /Overlock 10	1.9	9
90	Convergence analysis of first order reliability method using chaos theory. Computers and Structures, 2006, 84, 563-571.	2.4	51

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91	A sequential approximate programming strategy for reliability-based structural optimization. Computers and Structures, 2006, 84, 1353-1367.	2.4	216
92	Comparison of prediction on effective elastic property and shape optimization of truss material with periodic microstructure. International Journal of Mechanical Sciences, 2006, 48, 400-413.	3.6	49
93	Theoretical prediction and numerical simulation of multi-cell square thin-walled structures. Thin-Walled Structures, 2006, 44, 1185-1191.	2.7	269
94	Design of Cellular Structure for Optimum Efficiency of Heat Dissipation. , 2006, , 107-116.		2
95	A Feature-Based Structural Topology Optimization Method. , 2006, , 505-514.		12
96	Robust design of non-linear structures using optimization methods. Computer Methods in Applied Mechanics and Engineering, 2005, 194, 1779-1795.	3.4	56
97	Optimum design of truss topology under buckling constraints. Structural and Multidisciplinary Optimization, 2005, 30, 169-180.	1.7	45
98	Design of cellular structures for optimum efficiency of heat dissipation. Structural and Multidisciplinary Optimization, 2005, 30, 447-458.	1.7	27
99	Tolerance synthesis by a new method for system reliability-based optimization. Engineering Optimization, 2005, 37, 717-732.	1.5	7
100	A note on stress-constrained truss topology optimization. Structural and Multidisciplinary Optimization, 2004, 27, 136-137.	1.7	1
101	Discussion on: moment methods for structural reliability. Structural Safety, 2003, 25, 193-199.	2.8	35
102	A new approach for the solution of singular optima in truss topology optimization with stress and local buckling constraints. Structural and Multidisciplinary Optimization, 2001, 22, 364-373.	1.7	88
103	A new three-point approximation approach for design optimization problems. International Journal for Numerical Methods in Engineering, 2001, 50, 869-884.	1.5	5
104	On singular topologies and related optimization algorithm. , 2001, , 606-607.		0
105	New method for graded mesh generation of all hexahedral finite elements. Computers and Structures, 2000, 76, 729-740.	2.4	14
106	An extrapolation approach for the solution of singular optima. Structural and Multidisciplinary Optimization, 2000, 19, 255-262.	1.7	8
107	A new two-point approximation approach for structural optimization. Structural and Multidisciplinary Optimization, 2000, 20, 22-28.	1.7	10
108	New Formulation for Truss Topology Optimization Problems Under Buckling Constraints. , 2000, , 115-129.		4

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109	On Singular Topologies and Related Optimization Algorithm. , 2000, , 133-147.		0
110	OPTIMAL DESIGN OF INTERNAL RING SUPPORTS FOR VIBRATING CIRCULAR PLATES. Journal of Sound and Vibration, 1999, 219, 525-537.	2.1	10
111	A NOTE ON A JELLYFISH-LIKE FEASIBLE DOMAIN IN STRUCTURAL TOPOLOGY OPTIMIZATION. Engineering Optimization, 1998, 31, 1-24.	1.5	10
112	On sufficiency conditions for optimal design based on extremum principles of mechanics. Journal of the Mechanics and Physics of Solids, 1997, 45, 135-150.	2.3	35
113	?-relaxed approach in structural topology optimization. Structural Optimization, 1997, 13, 258-266.	0.7	422
114	Rigid body motion test against error in semi-analytical sensitivity analysis. Computers and Structures, 1993, 46, 515-527.	2.4	51
115	Knowledgeâ€Based Free Mesh Generation of Quadrilateral Elements in Twoâ€Dimensional Domains. Computer-Aided Civil and Infrastructure Engineering, 1993, 8, 259-270.	6.3	12
116	STUDY ON TOPOLOGY OPTIMIZATION WITH STRESS CONSTRAINTS. Engineering Optimization, 1992, 20, 129-148.	1.5	233
117	Strategies for automatic finite element modeling. Computers and Structures, 1992, 44, 905-909.	2.4	10
118	Automatic generation of quadrilateral mapping elements and applicability of shape optimization software. Computers and Structures, 1992, 45, 697-705.	2.4	10
119	Accuracy of semi-analytic sensitivity analysis. Finite Elements in Analysis and Design, 1989, 6, 113-128.	1.7	58
120	On the symmetry of laminated composite rectangular plates. Communications in Applied Numerical Methods, 1987, 3, 547-551.	0.5	3