

Geng Dong Cheng

List of Publications by Year in descending order

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120
papers

5,674
citations

81900

39
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79698

73
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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. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 389, 114302.	6.6	14
2	Mathematical foundations of FEM-cluster based reduced order analysis method and a spectral analysis algorithm for improving the accuracy. <i>Computational Mechanics</i> , 2022, 69, 1347-1363.	4.0	2
3	Structural topology optimization subject to overhang angle constraint with overhang length relaxation in additive manufacturing. <i>Science China Technological Sciences</i> , 2022, 65, 1213-1231.	4.0	4
4	Structural topology optimization of elastoplastic continuum under shakedown theory. <i>International Journal for Numerical Methods in Engineering</i> , 2022, 123, 4459-4482.	2.8	3
5	A novel primal-dual eigenstress-driven method for shakedown analysis of structures. <i>International Journal for Numerical Methods in Engineering</i> , 2021, 122, 2770-2801.	2.8	6
6	A self-learning finite element extraction system based on reinforcement learning. <i>Artificial Intelligence for Engineering Design, Analysis and Manufacturing: AIEDAM</i> , 2021, 35, 180-208.	1.1	7
7	A diversity metric based on Gaussian process model for diverse and competitive design. <i>Structural and Multidisciplinary Optimization</i> , 2021, 64, 2975-2997.	3.5	5
8	Discrete variable topology optimization for simplified convective heat transfer via sequential approximate integer programming with trust region. <i>International Journal for Numerical Methods in Engineering</i> , 2021, 122, 5844-5872.	2.8	12
9	Efficient prediction of the effective nonlinear properties of porous material by FEM-Cluster based Analysis (FCA). <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 383, 113921.	6.6	11
10	Special issue dedicated to Former Editor-in-Chief Raphael T. Haftka. <i>Structural and Multidisciplinary Optimization</i> , 2021, 64, 2825.	3.5	0
11	Further elaborations on topology optimization via sequential integer programming and Canonical relaxation algorithm and 128-line MATLAB code. <i>Structural and Multidisciplinary Optimization</i> , 2020, 61, 411-431.	3.5	42
12	Discrete variable topology optimization for compliant mechanism design via Sequential Approximate Integer Programming with Trust Region (SAIP-TR). <i>Structural and Multidisciplinary Optimization</i> , 2020, 62, 2851-2879.	3.5	18
13	Vibration reduction of rotating frame structure based on quadratic performance index. <i>Journal of Sound and Vibration</i> , 2020, 485, 115442.	3.9	1
14	A Model accounting for Stiffness Weakening of Curvic Couplings under Various Loading Conditions. <i>Mathematical Problems in Engineering</i> , 2020, 2020, 1-17.	1.1	0
15	The effect of micromechanics models on mechanical property predictions for short fiber composites. <i>Composite Structures</i> , 2020, 244, 112229.	5.8	20
16	Three-dimensional high resolution topology optimization considering additive manufacturing constraints. <i>Additive Manufacturing</i> , 2020, 35, 101224.	3.0	19
17	Sequential kriging-based closure approximations for flow-induced fiber orientation and prediction of composite stiffness. <i>Polymer Composites</i> , 2019, 40, 1748-1761.	4.6	4
18	On the solutions to the Saint-Venant problem of heterogeneous beam-like structures with periodic microstructures. <i>International Journal of Mechanical Sciences</i> , 2019, 163, 105123.	6.7	7

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19	Topology optimization via sequential integer programming and Canonical relaxation algorithm. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019, 348, 64-96.	6.6	53
20	FEM-Cluster based reduction method for efficient numerical prediction of effective properties of heterogeneous material in nonlinear range. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019, 348, 157-184.	6.6	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. <i>Computational Mechanics</i> , 2019, 64, 323-349.	4.0	15
22	Clustering discretization methods for generation of material performance databases in machine learning and design optimization. <i>Computational Mechanics</i> , 2019, 64, 281-305.	4.0	74
23	Topology optimization considering overhang constraint in additive manufacturing. <i>Computers and Structures</i> , 2019, 212, 86-100.	4.4	84
24	An adjoint method of sensitivity analysis for residual vibrations of structures subject to impacts. <i>Journal of Sound and Vibration</i> , 2018, 418, 15-35.	3.9	13
25	A two-phase approach based on sequential approximation for reliability-based design optimization. <i>Structural and Multidisciplinary Optimization</i> , 2018, 57, 489-508.	3.5	16
26	The effects of delamination deficiencies on compressive properties of composite grid-stiffened structures. <i>Mechanics of Advanced Materials and Structures</i> , 2018, 25, 901-916.	2.6	3
27	Report of the Workshop Predictive Theoretical, Computational and Experimental Approaches for Additive Manufacturing (WAM 2016). <i>SpringerBriefs in Applied Sciences and Technology</i> , 2018, , .	0.4	0
28	Residual vibration reduction for translation unconstrained or partially unconstrained structures by structural optimization. <i>Computers and Structures</i> , 2018, 210, 12-27.	4.4	5
29	Skew-symmetric Nitsche's formulation in isogeometric analysis: Dirichlet and symmetry conditions, patch coupling and frictionless contact. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2018, 341, 188-220.	6.6	49
30	Two-scale concurrent topology optimization with multiple micro materials based on principal stress orientation. <i>Structural and Multidisciplinary Optimization</i> , 2018, 57, 2093-2107.	3.5	56
31	Topology optimization of damping layers in shell structures subject to impact loads for minimum residual vibration. <i>Journal of Sound and Vibration</i> , 2018, 431, 226-247.	3.9	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's Mindlin plates with periodic microstructures. <i>Mechanics of Advanced Materials and Structures</i> , 2017, 24, 271-286.	2.6	12
34	Adjoint methods of sensitivity analysis for Lyapunov equation. <i>Structural and Multidisciplinary Optimization</i> , 2016, 53, 225-237.	3.5	12
35	Balancing diversity and performance in global optimization. <i>Structural and Multidisciplinary Optimization</i> , 2016, 54, 1093-1105.	3.5	12
36	Special issue dedicated to Founding Editor George Rozvany. <i>Structural and Multidisciplinary Optimization</i> , 2016, 54, 1107-1111.	3.5	0

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37	Two-scale topology design optimization of stiffened or porous plate subject to out-of-plane buckling constraint. <i>Structural and Multidisciplinary Optimization</i> , 2016, 54, 1283-1296.	3.5	36
38	An Innovative Surrogate-Based Searching Method for Reducing Warpage and Cycle Time in Injection Molding. <i>Advances in Polymer Technology</i> , 2016, 35, 288-297.	1.7	12
39	Stiffness design of heterogeneous periodic beam by topology optimization with integration of commercial software. <i>Computers and Structures</i> , 2016, 172, 71-80.	4.4	17
40	Topology optimization of plate structures subject to initial excitations for minimum dynamic performance index. <i>Structural and Multidisciplinary Optimization</i> , 2016, 53, 623-633.	3.5	21
41	Can damping be ignored in transient structural dynamic optimization?. <i>Structural and Multidisciplinary Optimization</i> , 2016, 54, 197-198.	3.5	3
42	Multi-scale concurrent material and structural design under mechanical and thermal loads. <i>Computational Mechanics</i> , 2016, 57, 437-446.	4.0	88
43	On predicting the effective elastic properties of polymer nanocomposites by novel numerical implementation of asymptotic homogenization method. <i>Composite Structures</i> , 2016, 135, 297-305.	5.8	22
44	A new method of shear stiffness prediction of periodic Timoshenko beams. <i>Mechanics of Advanced Materials and Structures</i> , 2016, 23, 670-680.	2.6	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. <i>International Journal of Advanced Manufacturing Technology</i> , 2015, 78, 1813-1826.	3.0	52
46	Optimum design of thermally loaded beam-columns for maximum vibration frequency or buckling temperature. <i>International Journal of Solids and Structures</i> , 2015, 66, 20-34.	2.7	7
47	FEM formulation of homogenization method for effective properties of periodic heterogeneous beam and size effect of basic cell in thickness direction. <i>Computers and Structures</i> , 2015, 156, 1-11.	4.4	53
48	Design Optimization of Connection Section for Concentrated Force Diffusion. <i>Mechanics Based Design of Structures and Machines</i> , 2015, 43, 209-231.	4.7	20
49	An identification method for enclosed voids restriction in manufacturability design for additive manufacturing structures. <i>Frontiers of Mechanical Engineering</i> , 2015, 10, 126-137.	4.3	113
50	Novel numerical implementation of asymptotic homogenization method for periodic plate structures. <i>International Journal of Solids and Structures</i> , 2014, 51, 284-292.	2.7	97
51	Integrated size and topology optimization of skeletal structures with exact frequency constraints. <i>Structural and Multidisciplinary Optimization</i> , 2014, 50, 113-128.	3.5	22
52	Analytic solutions of elastically supported Michell trusses. <i>Structural and Multidisciplinary Optimization</i> , 2014, 49, 689-694.	3.5	2
53	Fast Dynamic Analysis of Complicated Beam-Type Structure Based on Reduced Super Beam Model. <i>AIAA Journal</i> , 2014, 52, 952-963.	2.6	5
54	Efficient algorithm for probability-based design optimisation of complex structures and related issues. <i>Structure and Infrastructure Engineering</i> , 2014, 10, 1264-1275.	3.7	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.	3.5	4
56	Symmetry properties in structural optimization: some extensions. Structural and Multidisciplinary Optimization, 2013, 47, 783-794.	3.5	11
57	Multi-objective concurrent topology optimization of thermoelastic structures composed of homogeneous porous material. Structural and Multidisciplinary Optimization, 2013, 47, 583-597.	3.5	175
58	Novel implementation of homogenization method to predict effective properties of periodic materials. Acta Mechanica Sinica/Lixue Xuebao, 2013, 29, 550-556.	3.4	138
59	Fast dynamic performance optimization of complicated beam-type structures based on two new reduced physical models. Engineering Optimization, 2013, 45, 835-850.	2.6	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.	3.5	20
62	Optimum design of band-gap beam structures. International Journal of Solids and Structures, 2012, 49, 3158-3169.	2.7	71
63	On topology optimization of damping layer in shell structures under harmonic excitations. Structural and Multidisciplinary Optimization, 2012, 46, 51-67.	3.5	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.	3.9	97
65	Singular optimum topology of skeletal structures with frequency constraints by AGGA. Structural and Multidisciplinary Optimization, 2012, 45, 451-466.	3.5	26
66	A general formulation of structural topology optimization for maximizing structural stiffness. Structural and Multidisciplinary Optimization, 2011, 43, 561-572.	3.5	27
67	Discussion on symmetry of optimum topology design. Structural and Multidisciplinary Optimization, 2011, 44, 713-717.	3.5	24
68	Optimal structure design with low thermal directional expansion and high stiffness. Engineering Optimization, 2011, 43, 581-595.	2.6	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.	3.5	17
71	Volume preserving nonlinear density filter based on heaviside functions. Structural and Multidisciplinary Optimization, 2010, 41, 495-505.	3.5	303
72	Memorial to Xuesen Qian. Acta Mechanica Sinica/Lixue Xuebao, 2010, 26, 1-2.	3.4	0

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73	Recent development in structural design and optimization. Acta Mechanica Sinica/Lixue Xuebao, 2010, 26, 807-823.	3.4	158
74	Twenty-five years of excellence: a retrospective glance of Acta Mechanica Sinica. Acta Mechanica Sinica/Lixue Xuebao, 2010, 26, 793-794.	3.4	1
75	Discrete material optimization of vibrating laminated composite plates for minimum sound radiation. International Journal of Solids and Structures, 2010, 47, 2097-2114.	2.7	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.	3.5	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.	6.7	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.	3.5	48
81	Concurrent material and structural optimization of hollow plate with truss-like material. Structural and Multidisciplinary Optimization, 2008, 35, 153-163.	3.5	20
82	Optimum structure with homogeneous optimum truss-like material. Computers and Structures, 2008, 86, 1417-1425.	4.4	252
83	A sequential approximate programming strategy for performance-measure-based probabilistic structural design optimization. Structural Safety, 2008, 30, 91-109.	5.3	113
84	Optimum design for energy absorption of bitubal hexagonal columns with honeycomb core. International Journal of Crashworthiness, 2008, 13, 99-107.	1.9	24
85	Design of multi-tubular heat exchangers for optimum efficiency of heat dissipation. Engineering Optimization, 2008, 40, 767-788.	2.6	5
86	Energy absorption of axially compressed thin-walled square tubes with patterns. Thin-Walled Structures, 2007, 45, 737-746.	5.3	129
87	On the efficiency of chaos optimization algorithms for global optimization. Chaos, Solitons and Fractals, 2007, 34, 1366-1375.	5.1	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.	5.0	165
89	Binary discrete method of topology optimization. Applied Mathematics and Mechanics (English) Tj ETQq1 1 0.784314 rgBT /Overlock	3.6	9
90	Convergence analysis of first order reliability method using chaos theory. Computers and Structures, 2006, 84, 563-571.	4.4	51

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91	A sequential approximate programming strategy for reliability-based structural optimization. Computers and Structures, 2006, 84, 1353-1367.	4.4	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.	6.7	49
93	Theoretical prediction and numerical simulation of multi-cell square thin-walled structures. Thin-Walled Structures, 2006, 44, 1185-1191.	5.3	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.	6.6	56
97	Optimum design of truss topology under buckling constraints. Structural and Multidisciplinary Optimization, 2005, 30, 169-180.	3.5	45
98	Design of cellular structures for optimum efficiency of heat dissipation. Structural and Multidisciplinary Optimization, 2005, 30, 447-458.	3.5	27
99	Tolerance synthesis by a new method for system reliability-based optimization. Engineering Optimization, 2005, 37, 717-732.	2.6	7
100	A note on stress-constrained truss topology optimization. Structural and Multidisciplinary Optimization, 2004, 27, 136-137.	3.5	1
101	Discussion on: moment methods for structural reliability. Structural Safety, 2003, 25, 193-199.	5.3	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.	3.5	88
103	A new three-point approximation approach for design optimization problems. International Journal for Numerical Methods in Engineering, 2001, 50, 869-884.	2.8	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.	4.4	14
106	An extrapolation approach for the solution of singular optima. Structural and Multidisciplinary Optimization, 2000, 19, 255-262.	3.5	8
107	A new two-point approximation approach for structural optimization. Structural and Multidisciplinary Optimization, 2000, 20, 22-28.	3.5	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.	3.9	10
111	A NOTE ON A JELLYFISH-LIKE FEASIBLE DOMAIN IN STRUCTURAL TOPOLOGY OPTIMIZATION. Engineering Optimization, 1998, 31, 1-24.	2.6	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.	4.8	35
113	?-relaxed approach in structural topology optimization. Structural Optimization, 1997, 13, 258-266.	0.6	422
114	Rigid body motion test against error in semi-analytical sensitivity analysis. Computers and Structures, 1993, 46, 515-527.	4.4	51
115	Knowledge-Based Free Mesh Generation of Quadrilateral Elements in Two-Dimensional Domains. Computer-Aided Civil and Infrastructure Engineering, 1993, 8, 259-270.	9.8	12
116	STUDY ON TOPOLOGY OPTIMIZATION WITH STRESS CONSTRAINTS. Engineering Optimization, 1992, 20, 129-148.	2.6	233
117	Strategies for automatic finite element modeling. Computers and Structures, 1992, 44, 905-909.	4.4	10
118	Automatic generation of quadrilateral mapping elements and applicability of shape optimization software. Computers and Structures, 1992, 45, 697-705.	4.4	10
119	Accuracy of semi-analytic sensitivity analysis. Finite Elements in Analysis and Design, 1989, 6, 113-128.	3.2	58
120	On the symmetry of laminated composite rectangular plates. Communications in Applied Numerical Methods, 1987, 3, 547-551.	0.5	3