# Geng Dong Cheng

List of Publications by Year
in descending order

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|---|---|---|---|
| 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 | ?-relaxed approach in structural topology optimization. Structural Optimization, 1997, 13, 258-266. | 0.7 | 422 |
| 2 | On the efficiency of chaos optimization algorithms for global optimization. Chaos, Solitons and Fractals, 2007, 34, 1366-1375. | 2.5 | 344 |
| 3 | Volume preserving nonlinear density filter based on heaviside functions. Structural and Multidisciplinary Optimization, 2010, 41, 495-505. | 1.7 | 303 |
| 4 | Theoretical prediction and numerical simulation of multi-cell square thin-walled structures. Thin-Walled Structures, 2006, 44, 1185-1191. | 2.7 | 269 |
| 5 | Optimum structure with homogeneous optimum truss-like material. Computers and Structures, 2008, 86, 1417-1425. | 2.4 | 252 |
| 6 | STUDY ON TOPOLOGY OPTIMIZATION WITH STRESS CONSTRAINTS. Engineering Optimization, 1992, 20, 129-148. | 1.5 | 233 |
| 7 | A sequential approximate programming strategy for reliability-based structural optimization. Computers and Structures, 2006, 84, 1353-1367. | 2.4 | 216 |
| 8 | Optimum structure with homogeneous optimum cellular material for maximum fundamental frequency. Structural and Multidisciplinary Optimization, 2009, 39, 115-132. | 1.7 | 178 |
| 9 | Multi-objective concurrent topology optimization of thermoelastic structures composed of homogeneous porous material. Structural and Multidisciplinary Optimization, 2013, 47, 583-597. | 1.7 | 175 |
| 10 | 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 |
| 11 | Recent development in structural design and optimization. Acta Mechanica Sinica/Lixue Xuebao, 2010, 26, 807-823. | 1.5 | 158 |
| 12 | Novel implementation of homogenization method to predict effective properties of periodic materials. Acta Mechanica Sinica/Lixue Xuebao, 2013, 29, 550-556. | 1.5 | 138 |
| 13 | Energy absorption of axially compressed thin-walled square tubes with patterns. Thin-Walled Structures, 2007, 45, 737-746. | 2.7 | 129 |
| 14 | On topology optimization of damping layer in shell structures under harmonic excitations. Structural and Multidisciplinary Optimization, 2012, 46, 51-67. | 1.7 | 125 |
| 15 | A sequential approximate programming strategy for performance-measure-based probabilistic structural design optimization. Structural Safety, 2008, 30, 91-109. | 2.8 | 113 |
| 16 | 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 |
| 17 | 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 |
| 18 | Novel numerical implementation of asymptotic homogenization method for periodic plate structures. International Journal of Solids and Structures, 2014, 51, 284-292. | 1.3 | 97 |

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| 19 | 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 |
| 20 | Multi-scale concurrent material and structural design under mechanical and thermal loads. Computational Mechanics, 2016, 57, 437-446. | 2.2 | 88 |
| 21 | Topology optimization considering overhang constraint in additive manufacturing. Computers and Structures, 2019, 212, 86-100. | 2.4 | 84 |
| 22 | 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 |
| 23 | Clustering discretization methods for generation of material performance databases in machine learning and design optimization. Computational Mechanics, 2019, 64, 281-305. | 2.2 | 74 |
| 24 | Optimum design of band-gap beam structures. International Journal of Solids and Structures, 2012, 49, 3158-3169. | 1.3 | 71 |
| 25 | Accuracy of semi-analytic sensitivity analysis. Finite Elements in Analysis and Design, 1989, 6, 113-128. | 1.7 | 58 |
| 26 | Robust design of non-linear structures using optimization methods. Computer Methods in Applied Mechanics and Engineering, 2005, 194, 1779-1795. | 3.4 | 56 |
| 27 | 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 |
| 28 | 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 |
| 29 | 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 |
| 30 | Topology optimization via sequential integer programming and Canonical relaxation algorithm. Computer Methods in Applied Mechanics and Engineering, 2019, 348, 64-96. | 3.4 | 53 |
| 31 | 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 |
| 32 | Rigid body motion test against error in semi-analytical sensitivity analysis. Computers and Structures, 1993, 46, 515-527. | 2.4 | 51 |
| 33 | Convergence analysis of first order reliability method using chaos theory. Computers and Structures, 2006, 84, 563-571. | 2.4 | 51 |
| 34 | 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 |
| 35 | Skew-symmetric Nitscheâ€™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 |
| 36 | Further study on efficiency of sequential approximate programming for probabilistic structural design optimization. Structural and Multidisciplinary Optimization, 2008, 35, 509-522. | 1.7 | 48 |

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| 37 | Optimum design of truss topology under buckling constraints. Structural and Multidisciplinary Optimization, 2005, 30, 169-180. | 1.7 | 45 |
| 38 | 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 |
| 39 | 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 |
| 40 | Optimal structure design with low thermal directional expansion and high stiffness. Engineering Optimization, 2011, 43, 581-595. | 1.5 | 39 |
| 41 | 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 |
| 42 | 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 |
| 43 | Discussion on: moment methods for structural reliability. Structural Safety, 2003, 25, 193-199. | 2.8 | 35 |
| 44 | Design of cellular structures for optimum efficiency of heat dissipation. Structural and Multidisciplinary Optimization, 2005, 30, 447-458. | 1.7 | 27 |
| 45 | A general formulation of structural topology optimization for maximizing structural stiffness. Structural and Multidisciplinary Optimization, 2011, 43, 561-572. | 1.7 | 27 |
| 46 | Singular optimum topology of skeletal structures with frequency constraints by AGGA. Structural and Multidisciplinary Optimization, 2012, 45, 451-466. | 1.7 | 26 |
| 47 | 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 |
| 48 | Optimum design for energy absorption of bitubal hexagonal columns with honeycomb core. International Journal of Crashworthiness, 2008, 13, 99-107. | 1.1 | 24 |
| 49 | Discussion on symmetry of optimum topology design. Structural and Multidisciplinary Optimization, 2011, 44, 713-717. | 1.7 | 24 |
| 50 | Integrated size and topology optimization of skeletal structures with exact frequency constraints. Structural and Multidisciplinary Optimization, 2014, 50, 113-128. | 1.7 | 22 |
| 51 | 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 |
| 52 | 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 |
| 53 | Concurrent material and structural optimization of hollow plate with truss-like material. Structural and Multidisciplinary Optimization, 2008, 35, 153-163. | 1.7 | 20 |
| 54 | Some symmetry results for optimal solutions in structural optimization. Structural and Multidisciplinary Optimization, 2012, 46, 631-645. | 1.7 | 20 |

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| 55 | Design Optimization of Connection Section for Concentrated Force Diffusion. Mechanics Based Design of Structures and Machines, 2015, 43, 209-231. | 3.4 | 20 |
| 56 | The effect of micromechanics models on mechanical property predictions for short fiber composites. Composite Structures, 2020, 244, 112229. | 3.1 | 20 |
| 57 | Three-dimensional high resolution topology optimization considering additive manufacturing constraints. Additive Manufacturing, 2020, 35, 101224. | 1.7 | 19 |
| 58 | 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 |
| 59 | Optimum material design of minimum structural compliance under seepage constraint. Structural and Multidisciplinary Optimization, 2010, 41, 575-587. | 1.7 | 17 |
| 60 | Stiffness design of heterogeneous periodic beam by topology optimization with integration of commercial software. Computers and Structures, 2016, 172, 71-80. | 2.4 | 17 |
| 61 | Optimum Design of Pile Foundation by Automatic Grouping Genetic Algorithms. ISRN Civil Engineering, 2012, 2012, 1-16. | 0.4 | 16 |
| 62 | A two-phase approach based on sequential approximation for reliability-based design optimization. Structural and Multidisciplinary Optimization, 2018, 57, 489-508. | 1.7 | 16 |
| 63 | 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 |
| 64 | New method for graded mesh generation of all hexahedral finite elements. Computers and Structures, 2000, 76, 729-740. | 2.4 | 14 |
| 65 | 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 |
| 66 | 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 |
| 67 | 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 |
| 68 | 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 |
| 69 | Adjoint methods of sensitivity analysis for Lyapunov equation. Structural and Multidisciplinary Optimization, 2016, 53, 225-237. | 1.7 | 12 |
| 70 | Balancing diversity and performance in global optimization. Structural and Multidisciplinary Optimization, 2016, 54, 1093-1105. | 1.7 | 12 |
| 71 | 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 |
| 72 | Shear stiffness prediction of Reissnerâ€“Mindlin plates with periodic microstructures. Mechanics of Advanced Materials and Structures, 2017, 24, 271-286. | 1.5 | 12 |

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| 73 | Discrete variable topology optimization for simplified convective heat transfer via sequential approximate integer programming with trustâ€region. International Journal for Numerical Methods in Engineering, 2021, 122, 5844-5872. | 1.5 | 12 |
| 74 | A Feature-Based Structural Topology Optimization Method. , 2006, , 505-514. | | 12 |
| 75 | Symmetry properties in structural optimization: some extensions. Structural and Multidisciplinary Optimization, 2013, 47, 783-794. | 1.7 | 11 |
| 76 | A new method of shear stiffness prediction of periodic Timoshenko beams. Mechanics of Advanced Materials and Structures, 2016, 23, 670-680. | 1.5 | 11 |
| 77 | 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 |
| 78 | Strategies for automatic finite element modeling. Computers and Structures, 1992, 44, 905-909. | 2.4 | 10 |
| 79 | Automatic generation of quadrilateral mapping elements and applicability of shape optimization software. Computers and Structures, 1992, 45, 697-705. | 2.4 | 10 |
| 80 | A NOTE ON A JELLYFISH-LIKE FEASIBLE DOMAIN IN STRUCTURAL TOPOLOGY OPTIMIZATION. Engineering Optimization, 1998, 31, 1-24. | 1.5 | 10 |
| 81 | OPTIMAL DESIGN OF INTERNAL RING SUPPORTS FOR VIBRATING CIRCULAR PLATES. Journal of Sound and Vibration, 1999, 219, 525-537. | 2.1 | 10 |
| 82 | A new two-point approximation approach for structural optimization. Structural and Multidisciplinary Optimization, 2000, 20, 22-28. | 1.7 | 10 |
| 83 | Binary discrete method of topology optimization. Applied Mathematics and Mechanics (English) Tj ETQq1 1 0.784314 rgBT /Overlock 1 | 1.9 | 9 |
| 84 | An extrapolation approach for the solution of singular optima. Structural and Multidisciplinary Optimization, 2000, 19, 255-262. | 1.7 | 8 |
| 85 | Tolerance synthesis by a new method for system reliability-based optimization. Engineering Optimization, 2005, 37, 717-732. | 1.5 | 7 |
| 86 | 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 |
| 87 | On the solutions to the Saintâ€“Venant problem of heterogeneous beam-like structures with periodic microstructures. International Journal of Mechanical Sciences, 2019, 163, 105123. | 3.6 | 7 |
| 88 | 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 |
| 89 | A novel primalâ€dual eigenstressâ€driven method for shakedown analysis of structures. International Journal for Numerical Methods in Engineering, 2021, 122, 2770-2801. | 1.5 | 6 |
| 90 | A new three-point approximation approach for design optimization problems. International Journal for Numerical Methods in Engineering, 2001, 50, 869-884. | 1.5 | 5 |

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| 91 | Design of multi-tubular heat exchangers for optimum efficiency of heat dissipation. Engineering Optimization, 2008, 40, 767-788. | 1.5 | 5 |
| 92 | Fast Dynamic Analysis of Complicated Beam-Type Structure Based on Reduced Super Beam Model. AIAA Journal, 2014, 52, 952-963. | 1.5 | 5 |
| 93 | Residual vibration reduction for translation unconstrained or partially unconstrained structures by structural optimization. Computers and Structures, 2018, 210, 12-27. | 2.4 | 5 |
| 94 | A diversity metric based on Gaussian process model for diverse and competitive design. Structural and Multidisciplinary Optimization, 2021, 64, 2975-2997. | 1.7 | 5 |
| 95 | 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 |
| 96 | Sequential kriging‐based closure approximations for flow‐induced fiber orientation and prediction of composite stiffness. Polymer Composites, 2019, 40, 1748-1761. | 2.3 | 4 |
| 97 | New Formulation for Truss Topology Optimization Problems Under Buckling Constraints. , 2000, , 115-129. |  | 4 |
| 98 | 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 |
| 99 | On the symmetry of laminated composite rectangular plates. Communications in Applied Numerical Methods, 1987, 3, 547-551. | 0.5 | 3 |
| 100 | Can damping be ignored in transient structural dynamic optimization?. Structural and Multidisciplinary Optimization, 2016, 54, 197-198. | 1.7 | 3 |
| 101 | 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 |
| 102 | Two-Scale Concurrent Topology Optimization with Multiple Micro Materials Based on Principal Stress Direction. , 2018, , 1726-1737. |  | 3 |
| 103 | Structural topology optimization of elastoplastic continuum under shakedown theory. International Journal for Numerical Methods in Engineering, 2022, 123, 4459-4482. | 1.5 | 3 |
| 104 | Design of Cellular Structure for Optimum Efficiency of Heat Dissipation. , 2006, , 107-116. |  | 2 |
| 105 | Analytic solutions of elastically supported Michell trusses. Structural and Multidisciplinary Optimization, 2014, 49, 689-694. | 1.7 | 2 |
| 106 | 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 |
| 107 | A note on stress-constrained truss topology optimization. Structural and Multidisciplinary Optimization, 2004, 27, 136-137. | 1.7 | 1 |
| 108 | Twenty-five years of excellence: a retrospective glance of Acta Mechanica Sinica. Acta Mechanica Sinica/Lixue Xuebao, 2010, 26, 793-794. | 1.5 | 1 |

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| 109 | Vibration reduction of rotating frame structure based on quadratic performance index. Journal of Sound and Vibration, 2020, 485, 115442. | 2.1 | 1 |
| 110 | Optimization Design of Plate on Vibration and Acoustics Based on Finite Element Simulation. , 2009, , . | | 0 |
| 111 | Memorial to Xuesen Qian. Acta Mechanica Sinica/Lixue Xuebao, 2010, 26, 1-2. | 1.5 | 0 |
| 112 | Numerical Simulation and Optimization Design on Acoustic Absorbent Lining. , 2010, , . | | 0 |
| 113 | STUDY ON TWO SCALE DESIGN OPTIMIZATION OF STRUCTURES AND MATERIALS WITH PERIODIC MICROSTRUCTURE. , 2011, , 195-218. | | 0 |
| 114 | Efficient algorithm for probability-based design optimisation of complex structures and related issues. Structure and Infrastructure Engineering, 2014, 10, 1264-1275. | 2.0 | 0 |
| 115 | Special issue dedicated to Founding Editor George Rozvany. Structural and Multidisciplinary Optimization, 2016, 54, 1107-1111. | 1.7 | 0 |
| 116 | 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 |
| 117 | A Model accounting for Stiffness Weakening of Curvic Couplings under Various Loading Conditions. Mathematical Problems in Engineering, 2020, 2020, 1-17. | 0.6 | 0 |
| 118 | On Singular Topologies and Related Optimization Algorithm. , 2000, , 133-147. | | 0 |
| 119 | On singular topologies and related optimization algorithm. , 2001, , 606-607. | | 0 |
| 120 | Special issue dedicated to Former Editor-in-Chief Raphael T. Haftka. Structural and Multidisciplinary Optimization, 2021, 64, 2825. | 1.7 | 0 |