Grant P Steven

List of Publications by Year
in descending order

72 papers	2,471 citations	185998 28 h-index	214527 47 g-index
72 all docs	72 docs citations	72 times ranked	1580 citing authors

#	Article	IF	Citations
1	A Review on the Modelling of Piezoelectric Sensors and Actuators Incorporated in Intelligent Structures. Journal of Intelligent Material Systems and Structures, 1998, 9, 3-19.	1.4	257
2	Shape and topology design for heat conduction by Evolutionary Structural Optimization. International Journal of Heat and Mass Transfer, 1999, 42, 3361-3371.	2.5	175
3	Evolutionary topology optimization for temperature reduction of heat conducting fields. International Journal of Heat and Mass Transfer, 2004, 47, 5071-5083.	2.5	149
4	Topology and shape optimization methods using evolutionary algorithms: a review. Structural and Multidisciplinary Optimization, 2015, 52, 613-631.	1.7	145
5	Shape optimisation of adhesive fillets. International Journal of Adhesion and Adhesives, 2000, 20, 221-231.	1.4	101
6	Displacement minimization of thermoelastic structures by evolutionary thickness design. Computer Methods in Applied Mechanics and Engineering, 1999, 179, 361-378.	3.4	80
7	Optimal Topology Design of Bracing Systems for Multistory Steel Frames. Journal of Structural Engineering, 2000, 126, 823-829.	1.7	76
8	Configurational optimization of multi-cell topologies for multiple oblique loads. Structural and Multidisciplinary Optimization, 2018, 57, 469-488.	1.7	67
9	A mixed model for composite beams with piezoelectric actuators and sensors. Smart Materials and Structures, 1999, 8, 417-432.	1.8	63
10	A performance-based optimization method for topology design of continuum structures with mean compliance constraints. Computer Methods in Applied Mechanics and Engineering, 2002, 191, 1471-1489.	3.4	63
11	Micromechanics models for mechanical and thermomechanical properties of 3D through-the-thickness angle interlock woven composites. Composites Part A: Applied Science and Manufacturing, 1999, 30, 637-648.	3.8	58
12	Towards automated 3D finite element modeling of direct fiber reinforced composite dental bridge. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2005, 74B, 520-528.	1.6	58
13	Evolutionary structural optimization for connection topology design of multiâ€component systems. Engineering Computations, 2001, 18, 460-479.	0.7	53
14	Structural topology design with multiple thermal criteria. Engineering Computations, 2000, 17, 715-734.	0.7	50
15	Performance-Based Optimization for Strut-Tie Modeling of Structural Concrete. Journal of Structural Engineering, 2002, 128, 815-823.	1.7	49
16	Bridge topology optimisation with stress, displacement and frequency constraints. Computers and Structures, 2003, 81, 131-145.	2.4	49
17	Failure Analysis of Composite T-Joints Including Inserts. Journal of Reinforced Plastics and Composites, 1997, 16, 1642-1658.	1.6	46
18	Micromechanics models for the elastic constants and failure strengths of plain weave composites. Composite Structures, 1999, 47, 797-804.	3.1	40

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19	Evolutionary structural optimization for stress minimization problems by discrete thickness design. Computers and Structures, 2000, 78, 769-780.	2.4	37
20	Buckling mode transition in hat-stiffened composite panels loaded in uniaxial compression. Composite Structures, 1997, 37, 253-267.	3.1	36
21	An evolutionary shape optimization for elastic contact problems subject to multiple load cases. Computer Methods in Applied Mechanics and Engineering, 2005, 194, 3394-3415.	3.4	36
22	Time-dependent topology optimization of bone plates considering bone remodeling. Computer Methods in Applied Mechanics and Engineering, 2020, 359, 112702.	3.4	36
23	Homogenization of multicomponent composite orthotropic materials using FEA. Communications in Numerical Methods in Engineering, 1997, 13, 517-531.	1.3	35
24	Variations in Posteroanterior Stiffness in the Thoracolumbar Spine: Preliminary Observations and Proposed Mechanisms. Physical Therapy, 1998, 78, 1277-1287.	1.1	35
25	Topology Optimization of Multicell Tubes Under Out-of-Plane Crushing Using a Modified Artificial Bee Colony Algorithm. Journal of Mechanical Design, Transactions of the ASME, 2017, 139, .	1.7	34
26	On the benefits of applying topology optimization to structural design of aircraft components. Structural and Multidisciplinary Optimization, 2019, 60, 1245-1266.	1.7	33
27	Models for Predicting Thermomechanical Properties of Three-Dimensional Orthogonal Woven Composites. Journal of Reinforced Plastics and Composites, 1999, 18, 151-185.	1.6	32
28	Mechanical Behavior for 3-D Orthogonal Woven E-Glass/Epoxy Composites. Journal of Reinforced Plastics and Composites, 2001, 20, 274-303.	1.6	30
29	Levelâ€set topology optimization for maximizing fracture resistance of brittle materials using phaseâ€field fracture model. International Journal for Numerical Methods in Engineering, 2020, 121, 2929-2945.	1.5	28
30	Evolutionary structural optimisation (ESO) for combined topology and size optimisation of discrete structures. Computer Methods in Applied Mechanics and Engineering, 2000, 188, 743-754.	3.4	27
31	Evolutionary Structural Optimisation Incorporating Tension and Compression Materials. Advances in Structural Engineering, 1999, 2, 273-288.	1.2	24
32	A time-dependent mechanobiology-based topology optimization to enhance bone growth in tissue scaffolds. Journal of Biomechanics, 2021, 117, 110233.	0.9	23
33	An evolutionary approach to elastic contact optimization of frame structures. Finite Elements in Analysis and Design, 2003, 40, 61-81.	1.7	22
34	Multiobjective and multi-physics topology optimization using an updated smart normal constraint bi-directional evolutionary structural optimization method. Structural and Multidisciplinary Optimization, 2018, 57, 665-688.	1.7	22
35	Evolutionary shape optimization for stress minimization. Mechanics Research Communications, 1999, 26, 657-664.	1.0	21
36	Effect of Yarn Waviness on Strength of 3D Orthogonal Woven CFRP Composite Materials. Journal of Reinforced Plastics and Composites, 2002, 21, 153-173.	1.6	21

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37	On design of carbon fiber reinforced plastic (CFRP) laminated structure with different failure criteria. International Journal of Mechanical Sciences, 2021, 196, 106251.	3.6	20
38	Consistent mass matrix in fluid sloshing problems. AIAA Journal, 1976, 14, 245-247.	1.5	19
39	Internally discontinuous finite elements for moving interface problems. International Journal for Numerical Methods in Engineering, 1982, 18, 569-582.	1.5	19
40	Effective optimisation of continuum topologies through a multi-GA system. Computer Methods in Applied Mechanics and Engineering, 2005, 194, 3416-3437.	3.4	19
41	A Bi-directional Evolutionary Structural Optimisation algorithm with an added connectivity constraint. Finite Elements in Analysis and Design, 2017, 131, 25-42.	1.7	18
42	A simple alternative formulation for structural optimisation with dynamic and buckling objectives. Structural and Multidisciplinary Optimization, 2017, 55, 969-986.	1.7	18
43	A machine learning-based multiscale model to predict bone formation in scaffolds. Nature Computational Science, 2021, 1, 532-541.	3.8	17
44	Topology optimisation of micro fluidic mixers considering fluid-structure interactions with a coupled Lattice Boltzmann algorithm. Journal of Computational Physics, 2017, 349, 11-32.	1.9	16
45	Topology optimization for periodic multi-component structures with stiffness and frequency criteria. Structural and Multidisciplinary Optimization, 2020, 61, 2271-2289.	1.7	16
46	Phase field fracture in elasto-plastic solids: Incorporating phenomenological failure criteria for ductile materials. Computer Methods in Applied Mechanics and Engineering, 2022, 391, 114580.	3.4	15
47	Photoelastic evaluation of metallic inserts of optimised shape. Composites Science and Technology, 2000, 60, 95-106.	3.8	14
48	Preliminary Studies on the Optimum Shape of Dental Bridges. Computer Methods in Biomechanics and Biomedical Engineering, 2001, 4, 77-92.	0.9	14
49	Machine learning based topology optimization of fiber orientation for variable stiffness composite structures. International Journal for Numerical Methods in Engineering, 2021, 122, 6736-6755.	1.5	14
50	Evolutionary thickness design with stiffness maximization and stress minimization criteria. International Journal for Numerical Methods in Engineering, 2001, 52, 979-995.	1.5	13
51	Stress based optimization of torsional shafts using an evolutionary procedure. International Journal of Solids and Structures, 2001, 38, 5661-5677.	1.3	13
52	On the effect of fluid-structure interactions and choice of algorithm in multi-physics topology optimisation. Finite Elements in Analysis and Design, 2018, 145, 32-54.	1.7	13
53	A path-dependent level set topology optimization with fracture criterion. Computers and Structures, 2021, 249, 106515.	2.4	12
54	Determination of an Optimal Topology with a Predefined Number of Cavities. AIAA Journal, 2002, 40, 739-744.	1.5	11

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55	Knowledge-based algorithms in fixed-grid GA shape optimization. International Journal for Numerical Methods in Engineering, 2003, 58, 643-660.	1.5	11
56	Optimization of thin shell structures subjected to thermal loading. Structural Engineering and Mechanics, 1999, 7, 401-412.	1.0	11
57	Aircraft wing design automation with ESO and GESO. International Journal of Vehicle Design, 2002, 28, 356.	0.1	9
58	Topology Optimization Applied to Transpiration Cooling. AIAA Journal, 2019, 57, 297-312.	1.5	9
59	Novel Moving Isosurface Threshold Technique for Optimization of Structures Under Dynamic Loading. AIAA Journal, 2017, 55, 638-651.	1.5	8
60	Finite periodic topology optimization with oriented unit-cells. Structural and Multidisciplinary Optimization, 2021, 64, 1765-1779.	1.7	8
61	Multiple cutout optimization in composite plates using evolutionary structural optimization. Structural Engineering and Mechanics, 1997, 5, 609-624.	1.0	8
62	Homogenization and inverse homogenization for 3D composites of complex architecture. Engineering Computations, 2006, 23, 432-450.	0.7	6
63	Topology Design of Structures Subjected to Thermal Loading by Evolutionary Optimization Procedure. , 1997, , .		5
64	Homogenization of multicomponent composite orthotropic materials using FEA. , 1997, 13, 517.		2
65	Penalty method constraints for mesh grading in two-dimensional elasticity. Communications in Applied Numerical Methods, 1985, 1, 219-232.	0.5	1
66	A novel method for the vibration optimisation of structures subjected to dynamic loading. Advances in Aircraft and Spacecraft Science, 2017, 4, 169-184.	0.5	1
67	A strain softening element to model fibre pull-out. Communications in Applied Numerical Methods, 1986, 2, 633-638.	0.5	0
68	Vibration of pretwisted cantilever shallow conical shells. International Journal of Solids and Structures, 1997, 34, 2771-2774.	1.3	0
69	Tonal optimization of bells utilizing evolutionary shape optimization. Journal of Sound and Vibration, 2021, 509, 116233.	2.1	0
70	Lateral buckling behavior of pneumatically stiffened, reinforced composite beams in bending. AIAA Journal, 2001, 39, 303-307.	1.5	0
71	Discrete sensitivity-based evolutionary design optimization. , 2003, , 2373-2377.		0
72	Producing Smart Pareto Sets for Multi-objective Topology Optimisation Problems. , 2018, , 145-162.		0