

Matteo Bruggi

List of Publications by Year in descending order

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82
papers

1,693
citations

304368

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docs citations

82
times ranked

1030
citing authors

#	ARTICLE	IF	CITATIONS
1	On an alternative approach to stress constraints relaxation in topology optimization. <i>Structural and Multidisciplinary Optimization</i> , 2008, 36, 125-141.	1.7	282
2	Topology optimization for minimum weight with compliance and stress constraints. <i>Structural and Multidisciplinary Optimization</i> , 2012, 46, 369-384.	1.7	181
3	A mixed FEM approach to stress-constrained topology optimization. <i>International Journal for Numerical Methods in Engineering</i> , 2008, 73, 1693-1714.	1.5	101
4	Generating strut-and-tie patterns for reinforced concrete structures using topology optimization. <i>Computers and Structures</i> , 2009, 87, 1483-1495.	2.4	97
5	Topology optimization for minimum weight with compliance and simplified nominal stress constraints for fatigue resistance. <i>Structural and Multidisciplinary Optimization</i> , 2017, 55, 839-855.	1.7	53
6	Topology optimization for microstructural design under stress constraints. <i>Structural and Multidisciplinary Optimization</i> , 2018, 58, 2677-2695.	1.7	53
7	A fully adaptive topology optimization algorithm with goal-oriented error control. <i>Computers and Structures</i> , 2011, 89, 1481-1493.	2.4	47
8	On the virtual element method for topology optimization on polygonal meshes: A numerical study. <i>Computers and Mathematics With Applications</i> , 2017, 74, 1091-1109.	1.4	47
9	On the reliability of reusing bottom ash from municipal solid waste incineration as aggregate in concrete. <i>Composites Part B: Engineering</i> , 2014, 58, 502-509.	5.9	45
10	An alternative truly-mixed formulation to solve pressure load problems in topology optimization. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2009, 198, 1500-1512.	3.4	38
11	Topology optimization of the fiber-reinforcement retrofitting existing structures. <i>International Journal of Solids and Structures</i> , 2013, 50, 121-136.	1.3	36
12	Synthesis of auxetic structures using optimization of compliant mechanisms and a micropolar material model. <i>Structural and Multidisciplinary Optimization</i> , 2017, 55, 1-12.	1.7	35
13	Optimization of sensor placement to detect damage in flexible plates. <i>Engineering Optimization</i> , 2013, 45, 659-676.	1.5	32
14	Design of the optimal fiber-reinforcement for masonry structures via topology optimization. <i>International Journal of Solids and Structures</i> , 2013, 50, 2087-2106.	1.3	31
15	A numerical method to generate optimal load paths in plain and reinforced concrete structures. <i>Computers and Structures</i> , 2016, 170, 26-36.	2.4	30
16	Topology optimization with mixed finite elements on regular grids. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2016, 305, 133-153.	3.4	30
17	Finite element analysis of "tension structures as a topology optimization problem. <i>Structural and Multidisciplinary Optimization</i> , 2014, 50, 957-973.	1.7	28
18	Optimal 2D auxetic micro-structures with band gap. <i>Meccanica</i> , 2019, 54, 2001-2027.	1.2	27

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19	A constrained force density method for the funicular analysis and design of arches, domes and vaults. <i>International Journal of Solids and Structures</i> , 2020, 193-194, 251-269.	1.3	27
20	On the Automatic Generation of Strut and Tie Patterns under Multiple Load Cases with Application to the Aseismic Design of Concrete Structures. <i>Advances in Structural Engineering</i> , 2010, 13, 1167-1181.	1.2	25
21	A stress-based approach to the optimal design of structures with unilateral behavior of material or supports. <i>Structural and Multidisciplinary Optimization</i> , 2013, 48, 311-326.	1.7	25
22	Topology optimization of incompressible media using mixed finite elements. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2007, 196, 3151-3164.	3.4	24
23	Maximization of the fundamental eigenfrequency of micropolar solids through topology optimization. <i>Structural and Multidisciplinary Optimization</i> , 2012, 46, 549-560.	1.7	23
24	MEMS-based surface mounted health monitoring system for composite laminates. <i>Microelectronics Journal</i> , 2013, 44, 598-605.	1.1	23
25	Simultaneous design of the topology and the build orientation of Wire-and-Arc Additively Manufactured structural elements. <i>Computers and Structures</i> , 2021, 242, 106370.	2.4	23
26	Eigenvalue-based optimization of incompressible media using mixed finite elements with application to isolation devices. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2008, 197, 1262-1279.	3.4	20
27	On the solution of the checkerboard problem in mixed-FEM topology optimization. <i>Computers and Structures</i> , 2008, 86, 1819-1829.	2.4	20
28	Analysis of no-tension structures under monotonic loading through an energy-based method. <i>Computers and Structures</i> , 2015, 159, 14-25.	2.4	20
29	Topology optimization for thermal insulation: an application to building engineering. <i>Engineering Optimization</i> , 2011, 43, 1223-1242.	1.5	19
30	Geometry optimization of a Lorentz force, resonating MEMS magnetometer. <i>Microelectronics Reliability</i> , 2014, 54, 1192-1199.	0.9	18
31	An Efficient Earth Magnetic Field MEMS Sensor: Modeling, Experimental Results, and Optimization. <i>Journal of Microelectromechanical Systems</i> , 2015, 24, 887-895.	1.7	18
32	Experimentally-validated orthotropic elastic model for Wire-and-Arc Additively Manufactured stainless steel. <i>Additive Manufacturing</i> , 2021, 42, 101999.	1.7	17
33	Simple topology optimization strategy for the FRP reinforcement of masonry walls in two-way bending. <i>Computers and Structures</i> , 2014, 138, 86-101.	2.4	16
34	Optimal FRP reinforcement of masonry walls out-of-plane loaded: A combined homogenization-topology optimization approach complying with masonry strength domain. <i>Computers and Structures</i> , 2015, 153, 49-74.	2.4	16
35	Cohesive crack propagation in a random elastic medium. <i>Probabilistic Engineering Mechanics</i> , 2008, 23, 23-35.	1.3	15
36	Design of masonry blocks with enhanced thermomechanical performances by topology optimization. <i>Construction and Building Materials</i> , 2013, 48, 424-433.	3.2	14

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37	Modeling cohesive crack growth via a truly-mixed formulation. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2009, 198, 3836-3851.	3.4	13
38	Sensor deployment over damage-containing plates: A topology optimization approach. <i>Journal of Intelligent Material Systems and Structures</i> , 2013, 24, 1105-1122.	1.4	12
39	Optimal strengthening of concrete plates with unidirectional fiber-reinforcing layers. <i>International Journal of Solids and Structures</i> , 2015, 67-68, 311-325.	1.3	12
40	Analysis of 3D linear elastic masonry-like structures through the API of a finite element software. <i>Advances in Engineering Software</i> , 2019, 133, 60-75.	1.8	10
41	Topology optimization with a time-integral cost functional. <i>Finite Elements in Analysis and Design</i> , 2018, 140, 11-22.	1.7	9
42	Optimal design accounting for uncertainty in loading amplitudes: A numerical investigation. <i>Mechanics Based Design of Structures and Machines</i> , 2018, 46, 552-566.	3.4	8
43	Funicular Analysis of Ribbed Masonry Vaults: A Case Study. <i>International Journal of Architectural Heritage</i> , 2022, 16, 1809-1823.	1.7	8
44	Evaluation of concrete production with solid residues obtained from fluidized-bed incineration of MSW-derived solid recovered fuel (SRF). <i>Journal of Material Cycles and Waste Management</i> , 2017, 19, 1374-1383.	1.6	7
45	Optimal strengthening of no-tension structures with externally bonded reinforcing layers or ties. <i>Structural and Multidisciplinary Optimization</i> , 2017, 55, 1831-1846.	1.7	7
46	A Truly Mixed Approach for Cohesive-Crack Propagation in Functionally Graded Materials. <i>Mechanics of Advanced Materials and Structures</i> , 2007, 14, 643-654.	1.5	6
47	Simple Homogenization-Topology Optimization Approach for the Pushover Analysis of Masonry Walls. <i>International Journal of Architectural Heritage</i> , 2018, 12, 395-408.	1.7	6
48	Conceptual Design of Diagrids and Hexagrids by Distribution of Lattice Structures. <i>Frontiers in Built Environment</i> , 2020, 6, .	1.2	5
49	Topology Optimization of Multi-Loaded Structures with Mixed Finite Elements. <i>Advances in Structural Engineering</i> , 2007, 10, 663-679.	1.2	4
50	Smart sensing of damage in flexible plates through MEMS. <i>International Journal of Mechanisms and Robotic Systems</i> , 2014, 2, 67.	0.1	4
51	Optimization of auxetic structures for MEMS applications. , 2016, , .		4
52	Analysis of 3D no-tension masonry-like walls. <i>Journal of Mechanics of Materials and Structures</i> , 2018, 13, 631-646.	0.4	4
53	Optimal design of a resonating MEMS magnetometer: A multi-physics approach. , 2013, , .		3
54	A Multiscale Approach to the Smart Deployment of Micro-Sensors over Lightweight Structures. <i>Sensors</i> , 2017, 17, 1632.	2.1	3

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55	Hierarchical Infills for Additive Manufacturing Through a Multiscale Approach. Journal of Optimization Theory and Applications, 2020, 187, 654-682.	0.8	2
56	A numerical investigation on the size effect of fiber-reinforced concrete specimens in crack propagation. Computational Mechanics, 2012, 50, 99-117.	2.2	1
57	Optimal FRP Reinforcement of Masonry Walls under In- and Out-of-Plane Loads. Key Engineering Materials, 2014, 624, 429-436.	0.4	1
58	Topology optimization for the development of eco-efficient masonry units. , 2015, , 425-445.		1
59	Assessment and Reduction of the Seismic Vulnerability of a Stone Masonry Vault. Periodica Polytechnica: Civil Engineering, 2015, 59, 287-296.	0.6	1
60	Topology Optimization of the Fiber-Reinforcement of No-Tension Masonry Walls. Key Engineering Materials, 0, 747, 36-43.	0.4	1
61	A Multiscale Approach to the Smart Deployment of Micro-Sensors over Flexible Plates. Proceedings (mdpi), 2016, 1, .	0.2	1
62	Optimal Placement of MEMS Sensors for Damage Detection in Composite Plates. Micro and Nanosystems, 2018, 10, 65-74.	0.3	1
63	Assessment of 3D Linear Elastic Masonry-Like Vaulted Structures. Key Engineering Materials, 2019, 817, 50-56.	0.4	1
64	Towards the Development of a MEMS-Based Health Monitoring System for Lightweight Structures. , 0, , .		1
65	Mixed Finite-Element Approaches for Topology Optimization. , 0, , .		1
66	Mixed Variational Formulations for Micro-cracked Continua in the Multifield Framework. Algorithms, 2009, 2, 606-622.	1.2	0
67	A robust approach to the optimization of structures made of unilateral material. , 2014, , 853-858.		0
68	FINITE ELEMENT APPROXIMATION OF A TIME-DEPENDENT TOPOLOGY OPTIMIZATION PROBLEM. , 2016, , .		0
69	ANALYSIS AND DESIGN OF REINFORCED CONCRETE STRUCTURES AS A TOPOLOGY OPTIMIZATION PROBLEM. , 2016, , .		0
70	VEM AND TOPOLOGY OPTIMIZATION ON POLYGONAL MESHES. , 2016, , .		0
71	Fiber-reinforcement of masonry arches and barrel vaults through topology optimization. , 2016, , 1037-1044.		0
72	Analysis of Linear Elastic Masonry-Like Solids Subjected to Settlements. Key Engineering Materials, 0, 916, 155-162.	0.4	0

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73	Optimal Reinforcement for Masonry Walls subject to Two-Way Bending. , 0, , .		0
74	Stress Constraints in Compliance-Based Topology Optimization. , 0, , 101-123.		0
75	Mixed Finite-Elements for Eigenvalue Optimization of Incompressible Media. , 0, , .		0
76	Mixed Finite Element Analysis and Topology Optimization of Viscoelastic Devices. , 0, , .		0
77	Efficient Truly-Mixed Finite Elements for the Optimal Design of Structures. , 0, , .		0
78	Stress-Based Topology Optimization with Fatigue Failure Constraints. , 0, , .		0
79	A Strut-and-Tie Topology Optimization Model for the Pushover Analysis of In-Plane Loaded Masonry Walls. , 0, , .		0
80	Finite Element Analysis of Masonry Vaults using a Three-dimensional No-Tension Approach. , 0, , .		0
81	Minimization of the Thermal Transmittance of Masonry Blocks by Topology Optimization. , 0, , .		0
82	Optimal Fibre Reinforcement for Masonry Structures using Topology Optimization. , 0, , .		0